INCREASED INDUSTRIAL USE OF AGRICULTURAL PRODUCTS

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HEARING

BEFORE THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH CONGRESS

SECOND SESSION

ON

S. 4100, H. R. 1050, H. R. 4923, H. H. 6800, H. R. 6985, H. R. 8186, H. R. 8324, H. R. 8325, H. R. 8326, H. R. 8428, H. R. 8539, H. R. 9192, H. R. 9366, H. R. 9677, H. R. 10099, H. R. 11508, H. R. 11610, H. R. 12384, H. R. 13305, H. R. 13513, and H. R. 13605

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INCREASED INDUSTRIAL USE OF AGRICULTURAL PRODUCTS

FRIDAY, AUGUST 8, 1958

HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
Washington, D. C.

The committee met, pursuant to call, at 10 a. m., in room 1310, New House Office Building, Hon. Harold D. Cooley (chairman of the committee) presiding.

The CHAIRMAN. The committee will please be in order.

The first matter for consideration of the committee is S. 4100, and related bills having to do with industrial uses of agricultural products.

Gentlemen, we are honored this morning to have distinguished statesmen with us. I know that Senator Capehart is very busy, and we shall be glad to hear from him at this time.

Senator, will you please come around, as well as Senator Curtis and others, and tell us about the bill S. 4100?

STATEMENT OF HON. HOMER E. CAPEHART, A UNITED STATES SENATOR FROM THE STATE OF INDIANA

Senator CAPEHART. Yes, sir.

The CHAIRMAN. It is my understanding that this bill, a copy of which we shall insert into the record at this point, passed the Senate by a vote of 80 to nothing.

Senator CAPEHART. Eighty-one to zero, sir.

(A copy of S. 4100 follows:)

[S. 4100, 85th Cong., 2d sess.]

AN ACT To provide for the increased use of agricultural products for industrial purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

DECLARATIONS AND FINDINGS

SECTION 1. That the Congress of the United States hereby makes the following declarations and findings concerning the development of new and improved uses for farm products, new crops to replace those now in surplus, and the disposal of surplus commodities owned by the Government:

(a) Farms in the United States have a capacity to produce more farm products than can now be marketed at prices that will return sufficient incomes to farmers to maintain an efficient and progressive agricultural industry.

(b) A prosperous agriculture will contribute immensely to national welfare by efficient production of needed food, feed, and fiber by provision of raw materials for the transportation and processing industries, by purchases of production supplies, and by its contribution to maintenance of a balanced and high-level national economy.

(c) National defense and security interests of the United States require protection of agricultural resources against deterioration and the maintenance of

high productive capacity in order to meet possible emergency needs of the United States and other friendly nations.

(d) Basic research in agricultural products and their uses is essential in any long-range program of benefit to agriculture.

(e) Research programs to develop new and improved uses for farm products and new farm farm products have potentialities for providing outlets for a larger volume of farm production and greater stability of the prices of farm commodities.

(f) Public and private research agencies, including the Departments of Agriculture and Commerce, the land-grant colleges, other universities and research institutions, as well as private firms, can and should be utilized for an all-out attack on development of new and improved uses, and new and extended markets and outlets for farm products and byproducts. Research, pilot plant, development and trial commercialization work and corollary economic and related studies should be devoted to the expansion of industrial uses for agricultural commodities in surplus, and to any food and feed uses and replacement crops that can make substantial contributions toward the solution of the surplus problem. Facilities should be established as needed to permit adequate experimentation and testing, and production and market development, of promising new uses and new products.

(g) Development of new and improved industrial and other uses of farm products and new farm products and new and extended markets and outlets for farm products and byproducts will enlarge income opportunities for farmers. It also will reduce Government costs for acquisition, storage, and ultimate disposition of commodities now in surplus.

(h) Disposition of a portion of the surplus stocks of the Commodity Credit Corporation through industrial channels for new or byproduct uses, so that the carryover of any commodity beyond the needs of the Nation can be reduced, will have a stabilizing effect on the market prices for farm commodities.

AGRICULTURAL RESEARCH AND INDUSTRIAL ADMINISTRATION

SEC. 2. There is created and established in the Department of Agriculture an agency of the United States to be known as the Agricultural Research and Industrial Administration, all of the powers of which shall be exercised by an Administrator, under the general direction and supervision of the Secretary of Agriculture, who shall be appointed by the President, by and with the advice and consent of the Senate, for a term of six years and who shall receive basic compensation at the rate of $20,000 per annum. The duties of this agency shall be to coordinate and expedite efforts to develop, through research, new industrial uses, and increased use under existing processes, of agricultural products; to develop new replacement crops; and to reduce the stocks of commodities owned by the Commodity Credit Corporation.

SALARIES

SEC. 3. The positions of three Deputy Administrators of the agency shall be in grade GS–18 of the General Schedule established by the Classification Act of 1949, as amended. Such positions shall be in addition to the number of positions authorized to be placed in such grade by section 505 (b) of such Act. The agency is authorized to fix the compensation, notwithstanding other provisions of law, for not more than ten positions which require the services of especially qualified scientific or professional personnel: *Provided*, That the rates of basic compensation for positions established pursuant to this provision shall not exceed the maximum payable under the Act of August 1, 1947 (61 Stat. 715), as amended and supplemented. The agency may appoint and fix the compensation of any technically qualified person, firm, or organization by contract or otherwise on a temporary basis and for a term not to exceed six months in any fiscal year to perform research, technical, or other special services, without regard to the civil service laws or the Classification Act of 1949, as amended.

POWERS AND DUTIES

SEC. 4. The agency shall have power and authority, within the limits of the funds made available to it, to coordinate and expedite activities toward research, pilot-plant, development, trial commercialization and industrial uses, with Federal and State governments, educational institutions, private research organiza-

tions, trade associations, individuals and industrial corporations in expanding the industrial utilization of the products of farm and forest and the development of new crops. In the discharge of these duties, the agency is empowered to:

(a) Make use of the facilities of the Department of Agriculture and other Federal departments and agencies, land-grant institutions, and experiment stations. The agency shall utilize existing facilities owned or controlled by the Federal Government to the greatest extent practicable, including pilot plants, regional laboratories and other facilities and equipment, and is authorized to utilize authority now available to the Secretary of Agriculture under existing law;

(b) To make grants, for periods not to exceed five years duration, to State agricultural experiment stations, colleges, universities, and other research institutions and individuals;

(c) Contract with foreign individuals, organizations, institutions of learning, or private corporations where payment can be made in foreign currency accumulated under Public Law 480, Eighty-third Congress. The agency is hereby authorized to utilize such foreign currencies notwithstanding other provisions of law requiring reimbursement;

(d) To make contracts or cooperative arrangements in the manner provided by sections 10 (a) and 205 of the Act of August 14, 1946 (7 U. S. C. 427i, 1624), including contracts and agreements providing for the commercialization, market acceptance, and the economic feasibility of industrial utilization in the competitive market for agricultural products and processes with respect thereto;

(e) Extend suitable incentives to farmers or to industry to hasten the establishment of a new crop or of a new industrial use, where such appear likely to lead to durable additional markets;

(f) Direct the Commodity Credit Corporation to make delivery of any of its stocks of commodities to agencies of the Government, persons, or corporations designated by the agency where such stocks are to be used for (A) research, (B) pilot plant operation, (C) trial commercialization, (D) export of manufactured products, or (E) new or byproduct uses. The Commodity Credit Corporation, with respect to commodities thus requisitioned by the agency, shall pay necessary handling and delivery charges to the destination directed by the agency. Such sums of money as the agency shall receive, if any, on such transfers of commodities, shall be turned over to the Commodity Credit Corporation;

(g) To make contracts or leases for the private operation of any property or facilities transferred from another Government agency pursuant to this Act or other legislative authority;

(h) To make loans or grants to those with whom contracts or other arrangements are entered into, for the purpose of providing assistance in the acquisition or expansion of facilities and equipment for research or development activities;

(i) Provide in all contracts for the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing herein shall be construed to authorize the agency to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents;

(j) To grant exclusive licenses with or without payment of royalty for a fixed period of not to exceed five years for the use of patents under the control of the Department of Agriculture;

(k) To pay incentive awards to private citizens for suitable and acceptable suggestions to implement the program established by this Act, such payments to be made in accordance with previously published rules stating the amounts of, criteria for determining, and subjects of, such awards; and

(l) To test production procedures on a commercial basis, maintain and operate manufacturing facilities where necessary to prove the commercial feasibility of volume production and to build, purchase, or lease plant facilities, or necessary equipment suitable for manufacturing needs.

SCHOLARSHIPS

SEC. 5. The agency may provide graduate scholarships and fellowships and for this purpose may make grants to individuals: *Provided,* That such individuals agree to pursue courses in an accredited college or university in the United States leading to a degree or degrees in a science or field of study having application in agricultural research: *Provided further,* That the initial grants in any

one year may be made to individuals to attend any one institution in a number not exceeding 1 percent of the student body.

TRANSFER OF GOVERNMENT PLANTS

SEC. 6. Notwithstanding any other provision of law, any Government agency holding any Government-owned facility useful in the program authorized by this Act is authorized to transfer such facility to the agency, for use in the program, if requested to do so by the agency, provided such transfer has the approval of the Director of the Bureau of the Budget. The agency is authorized to exercise, with respect to the facilities transferred, all of the authority vested in the agencies transferring such facilities. At the time of such transfer, funds and personnel related to the operation or administration of such facilities, shall, with the approval of the Director of the Bureau of the Budget, also be transferred to the agency.

DEFINITION OF "AGRICULTURAL PRODUCTS"

SEC. 7. The terms "agricultural products" and "farm and forest products" as used in this Act shall have the same meaning as the term "agricultural products" in section 207 of the Act of August 14, 1946 (7 U. S. C. 1626).

ANNUAL REPORT

SEC. 8. The Administrator shall present annually to the Congress not later than the 20th day of January in each year a full report of his activities under this Act.

SAVINGS PROVISION

SEC. 9. The authorities under this Act are in addition to and not in substitution for authorities otherwise available under existing law.

APPROPRIATIONS

SEC. 10. There is hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this Act.

Passed the Senate July 29, 1958.

Attest:

FELTON M. JOHNSTON, *Secretary.*

Mr. HILL. Mr. Chairman, I think the farm bill passed the Senate by a vote of 62 to 11. They are working cooperatively over there in a way that I never dreamed would happen in my days in Congress, and we compliment them.

Mr. SIMPSON. Our committee had the farm bill out by a vote of 28 to nothing, and we were beaten.

The CHAIRMAN. Senator, we are very glad to hear from you now.

Senator CAPEHART. Mr. Chairman, I will try not to take too much of your time, because this is the tail end of the session, and we are anxious to get away.

Mr. HILL. Wait a minute. Do you speak with authority on the "tail end of the session"?

Senator CAPEHART. I did not say how long the tail was. It could be a long tail.

Mr. Chairman, I would like to just talk a few minutes and then I have a prepared statement I would like to file.

The CHAIRMAN. Yes, sir.

Senator CAPEHART. Many of us in the Senate and in the House and members of this committee have been interested for quite a long period of time now in finding new uses for farm products in industry, the purpose being to eliminate our surpluses and to find new income for farmers and new products and, likewise, to get the Government out of the farming business to the extent of possibly billions and billions of dollars.

The farm problem has always been one of surpluses accumulating when we produce more than the market will absorb, with resultant low prices and, inversely, when we have had a shortage of farm products, we have had high prices. In other words, when the market would absorb that which the farmers produced, we always had high prices. We have an example of that at the moment. Cattle prices are excellent and hog prices are good, because there is a shortage of hogs and cattle, but wheat and corn and other commodities are low because there is a surplus.

The purpose of this legislation is to find new uses for farm products in industry so that the farmers cannot only grow for food consumption by humans and animals, but likewise for use by industry. Both Republicans and Democrats have recognized by their authorship of farm programs in the past that the problem was one of overproduction.

For example, the Democratic Party back in 1938 came forth with the price-support program which was nothing more than a program to pay the farmers for producing less, thereby recognizing that the problem was one of overproduction. The Republican Party came along 2 years ago and added to that by saying that the surpluses were even greater or, at least, the surpluses are great, and proposing to cure this problem by the soil bank and thereby paying the farmers for not producing. Therefore we think it is an established fact that the farm problem is one caused by overproduction.

How are we going to handle it? Here is the situation in which we find ourselves: We find our farm production is up here [indicating] and our market is here [indicating]. Now, are we going to try to solve the problem by trying to push the production back with the market, or try to push the market up with the production, and push both of them up together?

This legislation is an effort to push the market up with the production and push both of them up, because you never help a man by pushing him down, and that has been pretty much what we have done.

For example, the cost was—well, 20 years prior to 1953—$7,174 million plus, on the farm program; in 1953, $329 million; in 1954, $964 millon; in 1955, $1.349 billion; in 1956, $1.936 billion; in 1957, $3.255 billion; in 1958 the estimated expenditures were $4.887 billion, and for this next fiscal year, 1959, they are estimated to be approximately $6 billion.

In other words, we have spent in the period since 1953, or we will have spent with this year's appropriation, approximately $18 billion.

Twenty years prior to that we spent $7 billion, or a total of $25.901 billion which the Department of Agriculture has spent and we still have $6 billion or $7 billion worth of surplus on hand.

So, this is an effort to solve that problem. Now, you cannot do it overnight. It will take time but in my opinion it has to be done. If we ever solve the farm problem permanently, we are going to solve it by assuring a market which absorbs every ounce of what the farmers produce every year. If the market does not, then you are going to have low prices.

It seems to me if that is the problem—and I think the figures and history prove that it is—the least that we can do is to set up a research

effort or do the necessary research to find new uses for farm products in industry and new markets.

May I call your attention to this fact: For the last 100 years—and I am not criticizing and I am delighted and happy that we did it and I want to continue to do it—we, meaning the American people, the Congress, the States and others, have literally spent hundreds of millions of dollars and billions of dollars to show the farmers how to grow more. We have the Department of Agriculture which concentrates primarily upon showing the farmers how to grow more and more and more, and we have our great agricultural schools to show them how to grow more. We have a county agent in every county in the Nation—and I am glad we do and I am not criticizing that at all—but I am simply saying we have spent literally billions of dollars over the last 100 years to show the farmers how to grow more and more to the extent that his production is away up here [indicating].

However, we have spent very little to find new uses and markets for farm products.

The Congress in its wisdom in 1946 or 1947 established four laboratories, which was excellent, and they have done a good job, and I do not think we should criticize that. However, we have not done enough, and this legislation is an effort to set up a sort of crash program to do a real job for the farmers because the farmer cannot do this for himself. There are some 6 million, and they cannot do it for themselves.

We must do it for them.

The only argument that I have found against this legislation—every Senator voted for it and no one talked against it—is that it takes some authority away from the Department of Agriculture and sets up a sort of an independent agency. I think the best argument in the world for that is that there is not a single big corporation in the United States which does not have in most instances a separate corporation to do their research; there is not one of them that has a separate corporation.

If they do not have a separate corporation to do it, they have a separate division. Mr. Charles Kettering was the head of a great research department of General Motors for years and years and he had nothing to do with production and nothing to do with running General Motors, but he concentrated on new products and improved products.

All this bill does or what we are trying to do here is to get an organization, and the bill calls for it to be generally supervised by the Department of Agriculture, or by the Secretary of the Department of Agriculture. We want an organization that can report to the Congress so that we know what they are doing, how they are doing it, and we want an organization with a man heading it who spends 24 hours a day thinking about it.

This job is big enough to require a man as big as the Secretary of Agriculture, if you please, to do this job. It is a tremendous job because it is not only the research but it is the plans to put all the products of the research into commercial use, and see that the manufacturers and processors use these products.

So, the only argument you will find find against it—you will find that it is going to cost a little money—but I would think anybody

that comes up here and testifies from the Department of Agriculture that it is going to cost a little money when they have just asked us to appropriate, and we have appropriated, $6 billion to operate the Department of Agriculture, should consider that this bill the first year could not cost more than $25 million, if that much, but of course the amount will go up from year to year. So the matter of cost is not a valid argument when you take into consideration the billions we have spent in agriculture.

The argument that it takes something away from the Department of Agriculture, in my opinion, is not valid. I do not care particularly whether you take anything away from the Department or not as long as this job is done. We have four laboratories and they are doing a good job but that effort is not sufficient and big enough. I think you have to crash this problem. You gentlemen will remember that during the war we could not get natural rubber and we appropriated some $600 million or $800 million to produce synthetic rubber. We brought in Mr. Jeffries, the president of the Union Pacific Railroad, and made him the czar of the synthetic-rubber business. The President of the United States said to him, "We want you to produce in 2 years' time or be prepared to produce in 2 years' time all the synthetic rubber this Nation needs," and he did. Yet he did it through private industry because the rubber companies had already done the research. They knew how to make synthetic rubber and the plans were on their shelves. They had never made it because they did not want to convert their plants from natural rubber to synthetic rubber. In the first place, they could not afford to do so. Well, Mr. Jeffries built 29 plants as you will remember to produce all of our synthetic rubber, and today we have enough synthetic-rubber capacity to take care of all of our needs. A couple of years ago, if you will recall, we sold those 29 synthetic-rubber plants back to private industry which today is operating them.

So we should crash this business, in my opinion, like we did the synthetic-rubber business.

I am not going to take your time to show you the many, many known uses in the market for farm products in industry, but I shall ask permission to put some of these things into the record. You gentlemen are familiar with that more so than I. I am not on the Agriculture Committee of the Senate. You gentlemen have been wrestling with this problem now for years and years. However, I strongly urge that we do something because industry spends billions of dollars a year to find new uses and improvements of its products and it is a tax deduction; whereas, the farmers have no one to do it for them. While a small amount of it is being done by the Department of Agriculture, not sufficient is being done. Some will tell you that there are not enough scientists in the country and research people to do this job. Well, if that is true, then that is the best reason in the world why we ought to have this legislation, because it calls for scholarships in our colleges.

In other words, if we are at the point now where we do not have sufficient people to do this sort of thing, then that is the best excuse in the world why this legislation should be passed.

Perhaps, gentlemen, you have some questions, but I am not going to belabor this problem any further.

The CHAIRMAN. Senator, I thank you for your appearance and for your fine statement. I want to call your attention to the fact that I received this morning, or yesterday, a 4- or 5-page letter from Mr. True D. Morse, Acting Secretary of Agriculture, and in the letter the Department opposes this bill. Here is what he says; I will not read the whole letter, but some excerpts from it.

They say:

We wish to emphasize that the Department of Agriculture opposes S. 4100 because it believes no new organization or entity is needed to administer an expanded utilization of research program.

Then he goes on further to say as follows:

We have developed our current organization for research after much experience. It is a good organization. Utilization research can be expanded in this organization more effectively than in any other arrangement. Key staff and facilities are available. We are ready to go. We have asked for more funds from Congress than have been granted—

and it goes on to say certain additional authorities will aid in the conduct of the utilization research program and these are provided in H. R. 13513 and H. R. 13605. He sets out what authority is contained in those bills.

I have not read the entire letter but, apparently, the Department is in accord with what you want to do. However, they say they have the organization and that they are ready to go.

Senator CAPEHART. Mr. Chairman, they sent the same letter to the Senate Agriculture Committee, and they sent the same letter to any number of Senators prior to the vote, and yet we voted 81 to zero in a yea-and-nay vote in the Senate, and I think the bill was reported out of the Senate Agriculture Committee unanimously. They have taken that position almost consistently. There is nothing new about that position. Yet they go merrily on accumulating surpluses and merrily on asking for $6 billion which we just appropriated for them. We have worked with them over there for about 3 years on this problem. We might as well face the issue. We had just as well call a spade a spade. Their chief resistance to this legislation is that it is going to take a little authority away from the Department of Agriculture. I am a farmer, and I have been all my life, and so far as I am concerned the time has come when we have got to try to solve this farm problem on a different basis than we have been doing in the past, and this is one way to do it. Why they are not enthusiastic about it I cannot say. I presume it is because of the same old idea that a bureaucrat never wants to give up any of his authority.

The CHAIRMAN. Mr. Hill desires to ask a question, but before he does so, Mr. Poage called my attention to the fact that the report on the bill says on page 3, section 2, as follows:

Section 2 establishes in the Department of Agriculture an Agricultural Research and Industrial Administration to carry out the program provided by the bill.

Senator CAPEHART. Yes, sir.

The CHAIRMAN. What is the Secretary's objection to that phase of it?

Senator CAPEHART. Well, Mr. Peterson is here, and maybe he can tell you. However, they think it takes a certain amount of authority away from them.

The CHAIRMAN. I can see that it does apparently authorize the creation of a new entity or a new department within the Department. Maybe that is the objection.

Mr. Hill wishes to ask a question.

Mr. HILL. Yes; I would like to ask a question of the Senator if I may.

Of course, I introduced H. R. 13513, which expresses my views in regard to the matter, and I think you should go along with part of the bill that I introduced as well as the bill which Mr. Dixon introduced. The reason I say that is because we have a great deal of experience in doing the very thing you are talking about under the Sugar Act. We have always had a Sugar Act operation inside the Department, and the Sugar Bureau, or the Sugar Section, has always done a most wonderful job.

Now, have you any argument to give me, or anyone else on this committee, as to why we could not have this program within the Department with the same type of organization without setting up a new independent group?

Senator CAPEHART. It is in the Department except that all this bill does is it gives them more money, more authority, and it gives them authority to perfect their own research. It gives scholarships and it gives them authority to get the job done, which they do not have at the moment, in my opinion, by law.

Mr. HILL. Of course, the Senator understands that that is no argument at all that you are giving me that they could not do it within the Department. I say let it be operated by the Department and then if you find out after a period of 5 or 10 years that it cannot operate efficiently within the Department, then you can make the change that you see is necessary. Your own report says the Secretary has that authority. Why not leave it the way your report says it should be?

Senator CAPEHART. You mean leave the bill as it is?

Mr. HILL. I mean my bill as it is in that it would be done in the Department.

Senator CAPEHART. Let me say this, Mr. Chairman: I do not care anything about the mechanics; I do not care how it is set up. All I want and all I have wanted for a number of years is that we do something and that we do a lot of things and that we get action and that we spend a reasonable amount of money and that we do these things that everybody tells us can be done that are not being done at the moment, and have not been done.

I have no pride in authorship. I was the author of one of the bills in the Senate, and Senator Johnston of South Carolina was the author of one and Senator Curtis was the author of one, and we set up a joint committee that studied this whole problem for a year, and they made a report back to the President and Congress recommending in substance what this legislation does.

Mr. HILL. We have about 22 bills here, and I think all of them are on this very subject.

Senator CAPEHART. That is right.

Mr. HILL. I think it would be very easy for this committee to get together and work out something that would be satisfactory with the Department as well as with the Senate and the House.

Senator CAPEHART. If we can get off dead center here and get enthusiasm and make progress in this direction, that is all I am advocating.

Mr. HILL. There are 22 bills, as I said, on this subject——

Senator CAPEHART. I think you will find a number of them are the same bill.

Mr. HILL. Not quite the same.

The CHAIRMAN. The gentleman from Mississippi, Mr. Abernethy, desires to ask a question.

Mr. ABERNETHY. Senator Capehart, this is something in which I have had extreme interest although my activities in the last 12 months may not have indicated it. However, our activity has been stymied by the opposition to this proposal. First, I think we might go back a little further and say this: I think the idea originated with the bill that the Senator introduced several years ago. The high enthusiasm grew out of a report as the Senator has stated from a commission appointed by the President which some time ago made its report to my subcommittee and, probably, made a comparable report to the Senate committee.

They drafted for me a piece of legislation to be introduced in the House which several of us introduced including Mr. Jennings and, I think, Dr. Dixon.

The CHAIRMAN. May I insert in the record at this point, Mr. Abernethy, a list of the authors of the several bills that we have for consideration.

Mr. ABERNETHY. Thank you, Mr. Chairman.

(The list referred to follows:)

S. 4100, Mr. Ellender
H. R. 1050, Mr. Abernethy
H. R. 4923, Mr. Jensen
H. R. 6800, Mr. Dixon
H. R. 6985, Mr. Harvey
H. R. 8186, Mr. Andresen
H. R. 8324, Mr. Abernethy
H. R. 8325, Mr. Harvey
H. R. 8326, Mr. Jennings
H. R. 8428, Mr. Weaver
H. R. 8539, Mr. Harrison
H. R. 9192, Mr. Saund
H. R. 9366, Mr. Bray
H. R. 9677, Mr. Laird
H. R. 10099, Mr. Berry
H. R. 11508, Mr. Miller (Nebraska)
H. R. 11610, Mr. Weaver
H. R. 12384, Mr. Avery
H. R. 13305, Mrs. Kee
H. R. 13513, Mr. Hill
H. R. 13605, Mr. Dixon

Mr. ABERNETHY. In the meantime, we had an informal hearing here in the committee, or a discussion, you might say, with some gentlemen from the Department, including Assistant Secretary Peterson. The hearing was more or less executive. I do not think I am privileged to comment upon what was said at the meeting except to say that this idea of a separate and distinct and independent agency was very strongly opposed by the Department.

Now, without any idea of objecting and criticizing anyone, when the Department strongly opposes something, unfortunately we in this committee get very strongly divided. I think it is a bad situation, but that is what happens. I am not criticizing anyone, because I think everyone is very sincere about their positions.

For instance, we had a bill here a few days ago to permit the farmers of some of the States to elect just one State ASC committeeman from a group of nominations made by them. The Department opposed that and so did the Farm Bureau and I understand it opposes this. You know, it is pretty potent around when it comes to oppos-

ing things. We sent the bill down for a report in March of this year. In June we received an unfavorable report. I would like to read from 1 or 2 paragraphs:

The Department favors the objectives of H. R. 8324 but opposes its enactment.

Where does that leave us?

Senator CAPEHART. Well, presumably, you are in the same position as was the Senate because they told the Senate the same thing, and yet the committee reported it out unanimously and it passed the Senate by a vote of 81 to zero, and no one on the Senate floor said a single word against the legislation.

Mr. ABERNETHY. I am not being critical, but I am trying to show you what we are up against.

The Department may be right about this; I do not know.

Here is what they say in the report. This is not the report the chairman was reading from earlier:

The establishment of an Agricultural Research and Industrial Board with the powers proposed in the bill would create an independent agency whose activities would duplicate and conflict with those now being carried out in the Department.

If we took a bill to the floor with a statement like that, it would not have a chance. Here is a statement from the Department saying that the bill would be nothing but an act of duplication.

I will not read further from that. The Secretary may be right. I am not so saying, because I do not think he is.

On the next page there is the following:

Under the Department's existing authority the financing of an expanded program for increased use of agricultural products could be accomplished through the regular appropriation processes.

That sort of stymies us, as I see it, and we are further stymied this morning. I had a call just now from a member of my staff to come to the telephone, that I had a long-distance call from the State director of extension in my State. I thought, maybe, it was about cotton or rice or something like that.

Mr. HILL. Or feed grains.

Mr. ABERNETHY. Or about who was going to make the next move on the pending farm bill which is of momentous importance. But I told my secretary to tell my friend that I could not take the call now because I was attending a very important meeting of the committee, but that I would call him back.

My secretary talked with the party and has sent me this memorandum:

Dr. Clay Lyle just called from a meeting of southern experiment station directors in Atlanta, and urged that this message be placed in your hands during the meeting of the Agriculture Committee this morning re legislation for increasing industrial research on agricultural products for industrial uses:

"This group representing 13 States and Puerto Rico does not favor the Senate-passed bill (S. 4100) because it sets up a separate agency or separate administration and that is what the Secretary has complained about. The directors are greatly in favor of increased research but they think it should be administered within the framework of the Department rather than setting up a separate entity, administration, or commission."

The CHAIRMAN. That was probably written here in the Department.

Mr. ABERNETHY. I am not saying that, Mr. Chairman. I do not know, but I do know this, and I do not blame them for their enthu-

siasm: I do know that the Department is dominated by production research and I think the Senator will agree. I feel just as the Senator does, that one of the troubles now is that we did not shift several years ago to utilization research. I still feel that way about it. Production research has always dominated the Department's research activity and that is no criticism of the Secretary or of these people. I think the only way that will ever get the proper sort of utilization research is to do just exactly what you desire to do, and what the President's Commission on Research reported and recommended that we do, that is, establish a separate agency, separate and apart from the Department, which could go its way and tend to its business without interference of the Department. I agree with the Senator. I am for the legislation but I do not think it has a chance in view of the situation we are facing this morning.

Mr. HARVEY. I wish to take this opportunity to say in behalf of our senior Senator from Indiana that he has worked tirelessly for a better solution of the problems of agriculture and has spent not only much of his effort, but a great deal of money as well, in attempting to acquaint the people with the need for better industrial utilization of our surplus commodities, and in that respect he has been very successful.

I certainly would like to congratulate him on his spectacular success in the Senate, along with several of his colleagues. I also note that my other colleague, Mr. Bray from Indiana, is here this morning and I assume in behalf of this legislation.

I also wish to speak my own support of a program of industrial research for I think it is the kind of program we can justify and one that will bring greater prosperity to agriculture.

Mr. DIXON. I likewise congratulate the Senator. I feel with all my heart that this program is one of the permanent cures for agriculture and instead of marketing 7 percent of our commodities through industry, we can market many, many times that amount.

What the Senator said is true, the individual farmer does not have the facilities to do research.

Oil research has created the great demand for detergents. It has created a demand for oil for plastics. We can make better plastics out of animal fats than they can out of oil products, but animal fats have not been promoted. Those are just examples of what can be done. This legislation is a must. It has to be passed. I do not want anything to stand in the road of its being passed.

With regard to the agency that is to administer it, I take issue with the Senator, and with my subcommittee chairman, that the Department of Agriculture is the better agency to administer it.

Senator CAPEHART. Will you yield? The legislation passed by the Senate leaves it entirely within the supervision of the Secretary of Agriculture. It simply sets up another department for him to supervise.

Mr. DIXON. Will the Senator permit me to read his bill?

There is created and established in the Department of Agriculture an agency of the United States to be known as the Agricultural Research and Industrial Administration, all of the powers of which shall be exercised by the Administrator.

I will go on a little further. That does not give the whole story.

Under the general direction and supervision of the Secretary of Agriculture.

Well, the administrator would be a research czar. He has all the power and you would not say that it would be administered by the Department of Agriculture when it says "all the powers of which shall be exercised by the Administrator."

Senator CAPEHART. Under the general supervision of the Secretary of Agriculture.

Mr. DIXON. The Secretary has no power, besides the President appoints the Administrator.

Senator CAPEHART. Here is the situation we find ourselves in. Everybody agrees that this ought to be done and it is a good thing, even the Department of Agriculture.

Mr. DIXON. That is right.

Senator CAPEHART. And we ought to do it, but we find ourselves now in an argument as to who is going to do it and the best way of doing it. Personally, I do not care as long as it is done. The thing that has been discouraging to me all the way through is that the Department of Agriculture will write letters, such as have been read here in part, but they never come up with a positive idea as to how to do it. They will not work with you in writing a bill, but they will simply say—"Give us some more money and we will do the job ourselves."

Mr. DIXON. The difficulty that enters in is how to get the job done.

Senator CAPEHART. Yes, and I do not care as long as they get the job done.

Mr. DIXON. I am for you 100 percent. In the first place, the only people who can do the job that I know of are in the Department; is that not right ?

Senator CAPEHART. That is correct.

Mr. DIXON. The only scientists.

Senator CAPEHART. At the moment that is true.

Mr. DIXON. This bill gives authority to employ 10 supergrade people. They will be pulled right out of the organization we have already because we have 200 wonderful research experiments that are out of the test tubes that the Department has ready. That will deplete our staff of the best people.

In the second place, is not unity of command vital to any organization that makes headway? That is the first principle of any administration—unity of command. Here you have a dual-headed situation that has no unity of command. I have never seen a double-headed organization that got anywhere in a hurry.

Now, let us take a third proposition.

The CHAIRMAN. We have only 15 minutes. I did not realize that the House would convene at 11 o'clock this morning, and we have to hear several other authors of bills.

Mr. DIXON. One of the best prospects we have is to make paper, wrappings, and films and adhesives from corn. The corn we have only has 25 percent amylose. The experiment stations now have a species of corn that can be developed with 75 percent. That would provide a wonderful market for corn. How is this independent agency going to produce the kind of corn needed for these synthetics and paper and plastics without the help of a production agency?

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You can not have one or the other; you have to have one and the other; is that not true?

Senator CAPEHART. You need both. I am going to let others work out the best way to do it, but what we need to do is to spend as much money as possible on finding new uses and markets for farm products, as much money as we can spend to show the farmer how to grow more and more and more. That is my philosophy. That is what I have been trying to do over the last few years—get people interested in that and get the Department of Agriculture interested in it and to make it a sort of crash program. I mean by that, get the job done perhaps in 5 years what we would normally do in 25 years because of the fact that we are spending $6 billion this year on farm programs. We cannot continue forever spending $6 billion or more on farm programs, in my opinion.

Mr. DIXON. Is the gentleman aware that the Department has set up a special division with Dr. George Irving to do this very thing, and he is getting the ball rolling beautifully?

Senator CAPEHART. I am aware of all of that, except that I think we ought to go faster. We ought to have more money. We ought to have a department that concentrates on this one thing and this one thing alone and without anything else to think of except this.

Mr. DIXON. I appreciate very much the Senator's visit and I am with him a hundred percent on his purpose.

Senator CAPEHART. I would like to place into the record a copy of a statement that I prepared and also the expenditures for the last 29 years in agriculture and possible uses for farm products.

The CHAIRMAN. Without objection, they will be inserted in the record at this point.

(The documents referred to follow:)

TESTIMONY OF SENATOR HOMER E. CAPEHART OF THE STATE OF INDIANA

Mr. Chairman, to you, Mr. Chairman, and to all of the members of the committee I want to express my deep appreciation for the opportunity to appear here today in support of legislation which is and has for a long time been very close to my heart.

That proposed legislation would provide for a research and development program under the sponsorship of the Federal Government to discover and perfect new industrial uses for the everyday products of the American farm.

Mr. Chairman, with the assistance of many top experts in the field, I first proposed such a program in the 84th Congress when I, together with more than 30 cosponsors, introduced a bill on March 21, 1956. Senate bill 724, which I introduced in this Congress, is a duplicate of the original bill and likewise supported by more than 30 Senators who joined as cosponsors.

The Senate committee had before it also Senate bill 3697 introduced by Senator Olin D. Johnston, and Senate bill 2306 introduced by Senator Carl T. Curtis, implementing the recommendations of the Commission on Increased Industrial Uses of Agricultural Products. From those bills, the Senate committee wrote S. 4100, which was passed by the Senate 81 to 0 on July 28 and which is now before your committee.

The principle involved in all of these bills is exactly the same, and that principle has my wholehearted support despite some variance as to administrative details.

When I proposed the first bill in the 84th Congress, I told the Senate that I considered this bill "the most important program I ever have sponsored" in my tenure in the Senate.

I am now more convinced than ever that this is true. It is a program which is all pluses and no minuses. It is good for everybody.

It is a matter of very great satisfaction to me that my belief in the program and in the benefits which all of our people would derive from it was confirmed

by the findings of the Commission on Increased Industrial Use of Agricultural Products created with the approval of the Congress.

The able men who gave of their time, effort, and resources to compile their findings in Senate Document 45 of the first session of this Congress have my heartiest congratulations. They performed a read public service. It is vitally important to all Americans to get the job done and get it done now, because what here is proposed is of vital importance to every man, woman, and child in the United States.

It would produce hundreds of thousands of new jobs. It would substitute a positive approach for a negative effort to solve our farm problem.

It would solve our farm problem for all time to come because it would assure that a farmer would have a demand for everything he could grow on his acreage and thus receive a fair price for his products.

It would end once and for all our costly farm-surplus problem.

Now, let's see what this alone would mean—the end of surplus accumulation.

For purposes of discussing this point, let us assume that it would cost $100 million to get the program underway.

Gentlemen, $100 million is less than one-third of the amount the Government has been spending just to store the vast surpluses for the last few years.

But, important as that financial saving would be, such a saving would be as a drop in the bucket when contrasted with the overall benefits accruing from such a program.

For, I am convinced that a properly directed research and development program would, within a few years, create a demand for farm products in industry at least equal in amount to that now consumed for human consumption and other purposes in the United States.

In other words, I believe it is safe to assume that such a program would double the farm market.

No longer would it be necessary to expand billions of dollars a year of taxpayers' money to acquire surpluses to sustain the farm economy.

No longer would it be necessary to pay our farmers not to produce their maximum. The demand would be there for everything a farmer could grow. It is obvious that such a situation would insure the farmer a good price for his maximum production. That is what I mean by the positive as opposed to the negative approach to the farm problem.

For the farmer, this would mean a whole new era of prosperity.

But, this again is only a part of the benefit accruing from such a program.

Research would develop new products. New products would create demands for new production facilities. New production facilities would create new jobs. New jobs would create new wealth, a more stable economy and a better life for our people.

New production facilities, new factories, would create demands for more of everything—transportation, machinery, wholesale and retail outlets to meet the new demands for everything business has to sell.

There is no question that the job can be done. We know enough now about the results of research in this field that the possibilities—at least to those who have studied them intensely—are almost limitless.

Simply to develop to their ultimate possibilities the new uses we already know about would produce new activity almost staggering the imagination. And, it has been fairly well established that the surface of such possibilities has barely been scratched.

What we must do is take the blinders off, as it were, of our agricultural research program. We must throw the full white light of technical research and development, experimentation, test facilities, pilot-plant operations and American technical know-how into an all-out effort to discover and perfect new industrial uses for just the everyday products of our land.

Now, I don't want to be misunderstood about existing research. The Department has been doing some. Our fine agricultural and technical schools are working at it constantly. We have some very limited utilization research plants under Government management. Within their limited facilities, all of these agencies have been doing a good job.

But, what I am talking about here is a much more comprehensive effort, a job with top priority under the direction of an agency with ample funds and the authority to knock heads together, if necessary, to get the job done.

A good example of the type of operation I am talking about is the research program which brought us synthetic rubber during the war. The Government

brought in Mr. William R. Jeffries of railroad fame and said to him: "Here's the money. Here's the authority. Get the job done."

As you all know, he did get the job done. And, with the enactment of legislation such as that pending before this committee, we can get this job done, too.

Now is the time to start.

It is my best judgment that we would begin to see tangible results of such a program within a reasonably short time. I believe that the Department of Agriculture and our research people have enough technical knowledge right now that, given a real opportunity to carry through, they can find industrial uses for 5 billion additional bushels of grain—corn, wheat, rye, barley, oats, rice, sorghum grains and others—each year.

Remember that we produce only about 6½ billion bushels now and that in some years as much as one-third of that amount has been surplus. It takes about 180 million acres to produce our present output. Add another 5 billion bushels to a real and continuing demand for grains and you begin to see the almost fantastic possibilities of this program we are talking about.

Then we must face realistically another agricultural problem growing, ironically enough, from discoveries of our vast private industrial research programs. They are developing substitutes, particularly in the fabrics field—substitutes which can in the end only aggravate our surplus problems unless we create new markets to offset the substitute uses.

The great chemical and petroleum industries have developed, through research programs, ways to make everything from rubber to clothing materials from substitutes.

These research programs have developed in substantially the same proportion to the amount of money industries have plowed back into research from their profits. Our most successful industries are those which have devoted and are devoting more and more attention to research.

Now, some have said that our 6 million farmers ought to do this for themselves. I wish they could. But I believe there is general agreement among those who have studied the problem that here is a job the farmers simply cannot do for themselves.

Gentlemen, Government spends a great amount of money for agricultural research every year. But, what we are doing is teaching the farmer how to grow more and more without giving the proper attention to finding new markets for his ever-increasing production.

It is simply a "must" that we spend at least as much money for research to develop new markets as we do for the development of new production methods.

At the same time, it is essential that we continue to find new ways to increase production. The money we put into that program is well spent by the Department of Agriculture and our great agricultural schools. But, we must, at the same time, be realistic enough to recognize that there must be markets for every ounce of our production if we are to maintain a stable, healthy, prosperous farm industry.

Let me give you one very simple, understandable example of what I am talking about.

Most of us remember not too many years ago when the production power on the farm was restricted to animal power—horses and mules. It has been estimated that this animal power consumed the production equivalent to some 80 million acres of feed grains.

Now the animal power is obsolete and there has been little or no research to develop new markets for the production of that 80 million acres. It's just as simple as that. Add to that the increased production from better seeds, fertilizers, improved insecticides, and you begin to see why, in the best fed nation in the world, we continue to have farm surpluses.

These are some of the reasons we have found it necessary to pass laws curtailing production, the negative approach, instead of providing the Government leadership which would create the markets to encourage every farmer in the land to grow everything it is possible to get from his land.

Since Congress long ago established as public policy the Federal Government's responsibility to nurture our vast agricultural industry, it seems crystal clear now that this responsibility extends to the development of new markets for what we grow. It is the only way I know or have heard of to end our farm problem and insure a sound, stable farm economy for the years ahead.

There just can't be any question that this is the answer to the farm problem. It has to be the answer.

In addition to solving the problem of surpluses, it would save billions of dollars in support programs, vastly increase farm income, boost tax revenues, stimulate business through increased purchasing power and create millions of new jobs.

I believe you all are familiar with what research did for the citrus industry at a time when it admittedly was in bad shape. The quick-freezing process, perfected in part through research conducted by our own Department of Agriculture, reversed that economic trend. Not only was the industry stabilized, but new demands brought vast expansion, and every man, woman, and child in the United States enjoyed a potential benefit because of the greater accessibility of the healthful benefits of fresh citrus fruit juices.

Then, have a look at what once was called the lowly soybean. The earliest records show that a Chinese emperor in 2838 B. C. wrote of the highly valued nutritional qualities of the soybean. Yet it was not until about 1930 that research spearheaded by the late Henry Ford—research for industrial uses of the soybean—that this crop started the upward trend that has made it one of the great money crops of today.

Those are examples we all know about and none can deny. Examples of what?—examples of just what we are here talking about—research.

Some work has been done on the development of powdered whole milk. It would be difficult to estimate what perfection of that process to commercial practicability would mean to the dairy industry and, again, with humane benefits to every man, woman, and child in the Nation.

I believe the perfection of the process would double the demand for milk. That means twice as many cows, twice as many dairy facilities, twice as much business. That means more jobs. There is example after example just as startling.

Now, of course, to develop most products to the state of commercial practicability would require pilot plants, new machinery types, field tests.

Then, with the perfection of a new process, private industry would begin, under license, to produce the new product, bringing demands for new advertising, merchandising, and sales organizations.

Yes, gentlemen, the possibilities are limitless, the potentiality so great as to require every bit of the imagination which has made America the great Nation it is.

Let me list a few more possibilities:

1. A high-protein cattle food that could consume an additional 150 million to 160 million of bushels of wheat a year, the production equivalent of 7½ million acres.
2. Metallurgical oils from grain.
3. Oil, as a grain derivative, for use in the manufacture of paint.
4. Ethyl alcohol, for use in producing synthetic rubber from grain. One ton of rubber would consume 350 bushels of grain. Multiply that by the 900,000 tons of synthetic rubber we produce a year and it comes up 315 million bushels of grain, the production equivalent of about 7 million acres.
5. Microba rubber, a natural product, from the gluten in grain.
6. Ethyl alcohol from grain to be blended with gasoline. If just 10 percent of the blend was ethyl alcohol made from grain, it would require more than 2 billion bushels of grain a year. That alone would absorb the grain surplus.

Now there are many more potential uses we already know about. Some say, and correctly so, that the cost of some of these uses would be so great as not to be practicable or competitive. Who knows? Finding ways to reduce the cost, make the uses practicable and the products competitive is just exactly what research programs—programs such as the one we here propose—are for.

Mr. Chairman, I have listed a few of the better known possibilities for new industrial uses which we all know about, but I believe it might be helpful if I should record here, in order, the list of known uses given to me by the Department of Agriculture. The Department has estimated that these 11 uses would consume 2.6 billion to 2.7 billion bushels a year if fully developed by the program here proposed. They are as follows:

1. High-protein food by fermentation, 150 million bushels a year.
2. Paint from vegetable oil, if 5 to 10 percent of the potential market is reached, 15 million to 60 million bushels a year.
3. Synthetic rubber, 365 million bushels a year.
4. Microbia rubber, if 10 percent of the potential market is reached, 25 million to 30 million bushels a year.
5. Increased use of starch in paper, 40 million to 100 million bushels a year.

6. Industrial exploitation of oxystarch, 10 million bushels a year.
7. Raising disease-free poultry for export, 13 million bushels a year.
8. New drug plants, 4½ million bushels a year.
9. Hardboard, boxboard, and building board from wheat, 20 million to 40 million bushels a year.
10. Development of high-amylose corn, 10 million bushels a year.
11. Blending 10 percent grain alcohol with gasoline, 2 billion bushels a year.

There are a great many other possible uses which have been called to my attention. These include smokeless powder, plastics, medicinals, toilet preparations, soaps, cleaners, anesthetics, antifreeze, dyes, varnishes, power, and fuel.

Who knows, Mr. Chairman, but that a program such as this may some day solve the problem of our paper supply, now almost altogether limited to the pulpwood industry? I can foresee the day that we may raise our entire paper supply right on our farms.

I could go on and on with possibilities. New ones are reported from time to time. But, they are going to remain just possibilities unless we do something about it and do it now.

The Commission on Increased Industrial Use of Agricultural Products, to which I referred previously, outlined 106 broad fields of research and development. They include cereal grains, cotton, oilseeds, meat and animal by-products, sugar, fruit, vegetables, edible tree nuts, white potatoes, poultry and eggs, crop residues, forest products, and new crops.

A program such as we here are discussing is gaining recognition in many circles and in some high places, including the office of President of the United States. Let me quote briefly from President Eisenhower's message on agriculture:

"The scientific revolution in agriculture is irreversible and is continuing. It cannot be avoided and it need not be feared. In recognition of this basic fact, we must find ways of utilizing more completely the abundance that our farm people are now able to produce; we must find ways of further expanding markets for this increased production, not only among our own citizens but among people all over the world who need the food and clothing we produce in such abundance * * *."

Then, the President proceeded to include as one of his nine recommendations for agriculture this quotation:

"Research efforts aimed at increasing industrial uses of farm products should be expanded * * * To a greater degree than at present, these raw materials can be used in industry, thereby broadening markets for our abundant farm products. New uses and new markets can be developed for our surplus crops * * *."

I am sure that most of you are familiar with and admire as I do the work of Mr. Wheeler McMillen, vice president of the Farm Journal and a recognized authority in this field. Called upon to comment in 1956 on the first bill of which I was the principal author, Mr. McMillen said, in part:

"If the Congress will adopt the principles of this bill and will provide adequate funds through the years, it will have taken the longest and soundest possible step toward making agriculture a permanently prosperous, expanding industry.

"It will add new products for the American standard of living. It will build new factories and create new jobs for years ahead.

"It will provide for American industry unfailing sources of raw materials, materials which will ever be renewable, annually reproductive as long as soil and water are conserved.

"It can in time remove, probably forever, the urgency of agricultural subsidies.

"It will work toward making American agriculture the growth industry that farmers want it to be. It will provide expanding opportunity for the family farm. It will make it possible for our fine farm boys and girls to live and prosper on the land they love.

"This proposal offers, in short, an infallible plan toward a richer rural civilization and, therefore, toward a better America."

Mr. Chairman, I cannot conceive of a finer tribute from a more qualified spokesman than this statement by Wheeler McMillen.

In this position, he is joined by very distinguished company, including the heads of our farm organizations, deans of schools of agriculture, farm publication policymakers, newspaper editorial writers, scientists, economists, and many others.

The principle involved here has been supported by the American Farm Bureau, the National Grange, National Council of Farmer Co-ops, National Farmers Union, Reed Research, Inc., National Cotton Council, Corn Industry

Research Foundation, National Farm Chemurgic Council, various leaders of organized labor, leading research scientists, experts from agricultural colleges, the Farm Journal, the Chemurgic Digest, the Oil and Gas Journal, the Indiana Farmers Guide, the Washington (D. C.) Star, Chicago Tribune, Cleveland Plain Dealer, Indianapolis News, Indianapolis Times, Indianapolis Star, South Bend Tribune, Hammond Times, Plymouth (Ind.) Pilot-News, Philadelphia Inquirer, Omaha World-Herald, Syracuse (N. Y.) Standard, LaPorte (Ind.) Herald-Argus, Kokomo Tribune, Lafayette Courier-Journal and other farm magazines and newspapers.

Mr. Chairman, I have the greatest admiration for our great schools of agriculture, one of the finest of which, Purdue University, is in my home State of Indiana. They have been and are doing an outstanding job. They are doing a great job for our agricultural industry.

So are our county agents, our extension schools, and our 4–H Clubs. They have helped immeasurably to make ours the best fed Nation in the world. Every cent spent on their activities has been well spent. We should continue their programs and make them ever expanding. The part they could play in the research program here suggested would be just as immeasurable, just as valuable.

But, again I want to say that we are faced with the practical necessity of finding markets for the products of our agricultural industry. No industry can long thrive when it continues to produce more than it has a market for. The only way I know to solve that problem for agriculture is to find new uses for farm products in industry. We need to spend just as much money on that kind of program as we now spend to improve our production.

As a businessman and a farmer, I know of only two ways to increase business. One is to sell more goods to existing customers. The other is to find new customers. We are selling all we can of our farm produce to existing customers. So, we must find new uses and new customers if we are going to solve permanently the farm problem.

Possible Uses for Farm Products

High protein food by fermentation, 150 million bushels a year.

Paint from vegetable oil, if 5 to 10 percent of potential market is reached, 15 to 60 million bushels a year.

Synthetic rubber, 365 million bushels a year.

Microbia rubber, if 10 percent of the potential market is reached, 25 to 30 million bushels a year.

Increased use of starch in paper, 40 to 100 million bushels a year.

Industrial exploitation of oxystarch, 10 million bushels a year.

Raising disease-free poultry for export, 13 million bushels a year.

New drug plants, 4½ million bushels a year.

Hardboard, boxboard, and building board from wheat, 20 to 40 million bushels a year.

Development of high amylose corn, 10 million bushels a year.

Blending 10-percent grain alcohol with gasoline, 2 billion bushels a year.

Smokeless Powder	Anesthetics
Plastics	Antifreeze
Medicinals	Dyes
Toilet preparations	Varnishes
Soaps	Power
Cleaners	Fuel

The Commission on Increased Industrial Use of Agricultural Products, to which I referred previously, outlined 106 broad fields of research and development. They include cereal grains, cotton, oilseeds, meat and animal byproducts, sugar, fruit, vegetables, edible tree nuts, white potatoes, poultry and eggs, crop residues, and forest products and new crops.

U. S. Department of Agriculture

Appropriations for research, U. S. Department of Agriculture and State agricultural experiment stations, fiscal years 1946–54

[In thousands]

	1946	1947	1948	1949	1950	1951	1952	1953	1954
USDA agencies:									
Production research	$17,550	$22,002	$23,440	$28,152	$27,919	$27,273	$27,795	$28,327	$29,189
Utilization research	6,816	7,467	9,451	9,708	10,581	10,027	9,755	9,525	9,614
New and improved uses:									
Farm products	5,403	5,907	8,186	8,515	9,150	8,698	8,487	8,269	8,376
Forest products	1,413	1,560	1,265	1,193	1,431	1,329	1,268	1,256	1,238
Marketing research	1,951	2,283	3,625	5,605	6,040	5,846	5,188	5,310	5,372
Home economics research	1,019	1,177	1,254	1,643	1,854	1,547	1,492	1,451	1,370
Total, USDA agencies	27,336	32,929	37,770	45,108	46,394	44,693	44,230	44,613	45,545
State agricultural experiment stations:									
Federal grant	7,206	7,206	9,706	10,719	12,698	12,716	12,670	12,696	13,722
Subtotal	34,542	40,135	47,476	55,827	59,092	57,409	56,900	57,309	59,267
Non-Federal	20,787	27,700	35,350	40,305	45,205	50,972	56,884	61,971	67,205
Grand total, research	55,329	67,835	82,826	96,132	104,297	108,381	113,784	119,280	126,472

NOTE.—Adjusted for comparability with 1959 appropriation structure.

U. S. Department of Agriculture

Appropriations for research, U. S. Department of Agriculture and State agricultural experiment stations, fiscal years 1955–59

[In thousands]

	1955	1956	1957	1958	1959
USDA agencies:					
Production research	$33,847	[1] [2] $37,731	[2] $47,857	[2] $52,216	$54,910
Utilization research	10,698	11,244	14,213	15,248	17,844
New and improved uses:					
Farm products	9,220	9,665	12,257	13,025	15,195
Forest products	1,478	1,579	1,956	2,223	2,649
Marketing research	6,661	7,711	9,179	9,538	9,536
Home economics research	1,438	1,555	1,901	2,005	2,004
Total, USDA agencies	52,644	58,241	73,150	[4] [5] 79,007	[5] 84,294
State agricultural experiment stations:					
Federal grant	19,454	24,754	[6] 29,754	[6] 30,604	[5] 31,804
Subtotal	72,098	82,995	102,904	109,611	116,098
Non-Federal	72,158	76,233	84,368	92,000	100,000
Grand total, research	144,256	159,228	187,272	201,611	216,098

[1] Includes $62,000 available for research—$50,000 on cantaloup disease and insect problems in the Southwest and $12,000 for research to support the vesicular exanthema eradication program—under authority o, sec. 702 (b) of the Department of Agriculture Organic Act of 1944.
[2] Excludes amounts for animal disease laboratory facilities: 1956, $250,000; 1957, $16,250,000.
[3] Includes supplemental appropriation of $6,250 for pear decline.
[4] Excludes budget reserve for savings of $222,000; production research, $200,000; and marketing research $22,000.
[5] Does not include increased pay costs.
[6] Includes $250,000 for penalty mail costs.

NOTE.—Adjusted for comparability with 1959 appropriation structure.

Senator CAPEHART. I want to thank the committee.

The CHAIRMAN. We thank you for your appearance.

Senator CAPEHART. I want to say in closing that I do not have any pride of authorship. I do not think that we do on the Senate side. We are just interested in getting the job done, and for God's sake, let us get started because if we do not get started we are not going to get it done. We ought to crash the program, in my opinion.

The CHAIRMAN. At this point in the record we shall insert a letter from Mr. Morse, the Acting Secretary, to me, and a letter to Senator Ellender of July 11, 1958, from Mr. E. L. Peterson, Assistant Secretary.

(The letters referred to follow:)

DEPARTMENT OF AGRICULTURE,
Washington, D. C., August 7, 1958.

Hon. HAROLD D. COOLEY,
Chairman, Committee on Agriculture,
House of Representatives.

DEAR CONGRESSMAN COOLEY: On July 29, the Senate passed S. 4100, which would expand utilization research in the Department of Agriculture and create a new agency to administer the expanded program.

The Department has expressed its opposition to S. 4100, as indicated in a letter dated July 11 to Senator Ellender, chairman of the Senate Committee on Agriculture and Forestry, the text of which appears in the Congressional Record for July 28, page 13946, and a copy of which is attached. As the letter indicates, there is no lack of interest on the part of the Department in expanding utilization research but the Department objects to the means proposed in S. 4100 for accomplishing it.

We wish to emphasize that the Department opposes S. 4100 because it believes no new organizational entity is needed to administer an expanded utilization research program. But the Department is in accord with and recommends favorable action on Congressman Hill's bill, H. R. 13513, or an identical bill introduced by Congressman Dixon, H. R. 13605.

An expanded utilization research program can broaden current uses of agricultural commodities and it can develop new uses. But to do this most effectively, the program must be organized and conducted in a manner designed to make research effective. Utilization research will make more progress if it is closely associated with other farm research.

We have developed our current organization for research after much experience. It is a good organization. Utilization research can be expanded in this organization more effectively than in any other arrangement. Key staff and facilities are available. We are ready to go. We have asked for more funds from Congress than have been granted. Certain additional authorities would aid in the conduct of a utilization research program. These are provided in H. R. 13513 and H. R. 13605. They are (1) to make grants to research institutions for the conduct of new uses investigations; (2) to provide graduate scholarships and fellowships to individuals pursuing studies in sciences having application in agricultural research; (3) to grant exclusive licenses for limited periods for the use of Government patents to carry out trial commercialization of new crops or new uses for agricultural products; (4) to compensate a limited number of especially qualified professional personnel at rates above normal civil service rates; (5) to authorize the Department of Commerce to conduct investigations into the economic feasibility of industrial uses of farm products and assist in promoting their utilization; (6) to create an Agricultural Research and Industrial Board of industrial, agricultural, and scientific experts to advise on research, bring new uses for farm crops forcefully to the attention of industry and assist in the translation of research results to industrial use.

Given these new authorities, more will be accomplished in an expanded utilization research program than by any other plan before the Congress. We believe this for the following reasons:

UTILIZATION RESEARCH IS A KEY TO WIDER MARKETS FOR FARM CROPS

Utilization research in agriculture is the systematic endeavor, through science and technology, to increase the use of farm crops by discovering the full range of uses of which they are capable. It seeks to establish agricultural commodities as the raw materials of preference for fabrication of myriad industrial items—such as plastics, adhesives, detergents, and paints—by finding first what industry needs and by tailoring agricultural products to fit these needs.

Years of vigorous research on nonagricultural raw materials—coal, ores, petroleum—has already placed them in a majority of these industrial items, often at the expense of farm products. The farm producer has been literally researched out of the markets for many of his crops. This situation, created by liberally supported industrial research, can be rectified by adequately supported research to develop farm crops as industrial raw materials. What industry has done through research, agriculture can do.

THE FARMER IS DEPENDENT UPON USDA FOR NEW USES RESEARCH

Utilization research on farm commodities is, and we believe must become, an increasingly heavy responsibility of the Federal Government through the Department of Agriculture. The Federal Government alone is in position to provide the concentrated research needed. Only in recent years has this fact become fully apparent in areas of vital importance to agriculture and the Nation. Dwindling markets for fats in soap, cotton, and wool in apparel, and oils in paints have made it evident.

The incentive for private risk and venture on behalf of agricultural commodities is weak or nonexistent. Textile manufacturers, for example, can assume no great responsibility to risk their own resources in searching for ways to use more cotton or wool in their fabrics. Shoe manufacturers, offered an attractive synthetic replacement for leather, cannot feel bound to institute a vigorous research program on leather. In short, farm producers, to whom the outcome is a matter of economic life or death must look to public agencies for a frankly proagriculture approach.

UTILIZATION RESEARCH HAS BENEFITED AGRICULTURE

The record of achievement of utilization research in the Department is long and impressive. This can be illustrated most dramatically by the accomplishments of utilization research for several of our major commodities.

Utilization research is responsible for the markets that cotton now enjoys. Faced with formidable competition from synthetic fibers, the cotton industry moved to machine harvesting and drying at the gin. These processes, designed to reduce cost and thus help cotton compete with synthetics, introduced foreign materials and brought about changes in the cotton fiber, thus placing markets for these products in further jeopardy. Utilization research solved the problem of efficient, low-cost cleaning of machine-harvested cotton and of avoiding quality damage at the gin. More recently, utilization research has developed the wash-and-wear cotton fabrics now on the market. These are so much superior to synthetics or blends that consumers are turning more and more to all cotton in the wash-and-wear field. These developments have literally saved the cotton industry.

Utilization research has made possible the development of the soybean as a food and industrial crop in the United States. Extensive soybean farming and utilization research began at about the same time. Utilization research solved the problems that permitted soybean oil to become the primary food oil and soybean meal the primary protein feedstuff in the United States. It developed industrial chemicals from soybean oil that now form the basis of paints and other formulations that are providing outlets for millions of bushels of soybeans annually. The soybean industry has grown rapidly but only as rapidly as research has permitted it. There is no better example of the value of research in agriculture today.

Inedible animal fats—tallows and greases—formerly used by the millions of pounds to produce soap, were thrown out of this market almost overnight by public acceptance of synthetic detergents. Utilization research has provided alternative markets for these fats that have converted this situation from one of crisis to the livestock industry to one where animal fats now enjoy substantial acceptance on the domestic market. Utilization research has already provided

markets for 380 million pounds of animal fats annually in plastics and in animal feed. Current research is adding regularly to the annual demand for animal fats as industrial raw materials.

UTILIZATION RESEARCH ON FARM CROPS CAN BEST BE EXPANDED IN THE AGRICULTURAL RESEARCH SERVICE OF THE DEPARTMENT

Research on the development of new uses for agricultural products is now conducted in a separate unit in the Department. This unit has no other responsibilities. The utilization research unit is separately budgeted and separately directed but its efforts are coordinated with all other research in the Department through the Administrator of the Agricultural Research Service and an Assistant Secretary of Agriculture. Coordination of utilization research with related research is essential to effective utilization research. Utilization, production, and marketing research are complementary. No one field can be neglected without adversely affecting the others. Successful industrial uses are dependent upon efficient marketing practices and upon availability of raw materials of high quality in adequate supply. This, in turn, is dependent upon production research on problems that may affect raw material supply, and improved production practices to lower raw material costs. Utilization research cannot operate in a vacuum of other agricultural knowledge.

The utilization research unit has modern facilities that can be enlarged to conduct any expanded program that is visualized. These laboratories are staffed with the most capable professional personnel in their fields in the country today, who are ready and eager to assume the responsibility for staffing and directing an expanded program in this area. The laboratories operate with the close counsel of more than 500 of the country's experts in the agricultural, industrial, and academic fields. They enlist the aid, through contract and other agreements, of universities, research institutions, and industrial users wherever such cooperation can further their programs. The laboratories have developed intimate working relationships with the industries that can best and most promptly accept and commercialize their successful research developments.

This organization can effectively conduct a utilization research program of whatever magnitude and complexity the Congress may desire without the delay and confusion that would be inevitable with the creation of a separate agency even though such an agency is within the Department of Agriculture.

Under the authorities of the Agricultural Adjustment Act of 1938 and the Research and Marketing Act of 1946, the financing of an expanded program could be accomplished through regular appropriation processes. However, there are certain additional authorities that would materially aid in the development of an expanded program of research. As stated earlier, these are authority for research grants, fellowships, and scholarships; authority to grant exclusive patent licenses; authority to hire personnel for positions of research leadership at more adequate salary levels; and authority to secure regular advice and counsel from industrial and other experts. With these authorities which are contained in H. R. 13513 and H. R. 13605, the Department of Agriculture can administer any utilization research program the Congress may authorize.

Because of time limitations it may be appropriate to correlate with other proposed legislation one or two features of the bills, such as scholarships, which have already progressed satisfactorily under the President's program. The Bureau of the Budget advises that there is no objection to the submission of this report.

Sincerely yours,

TRUE D. MORSE, *Acting Secretary.*

DEPARTMENT OF AGRICULTURE,
Washington, D. C., July 11, 1958.

Hon. ALLEN J. ELLENDER,
Chairman, Committee on Agriculture and Forestry,
United States Senate.

DEAR SENATOR ELLENDER: We are bringing to your attention our views concerning S. 4100, a bill to provide for the increased use of agricultural products for industrial purposes. During the course of consideration by the Senate Committee on Agriculture and Forestry of the general subject with which S. 4100 is concerned, representatives of this Department outlined for the com-

mittee the general views with respect thereto which are held by this Department.

The Department of Agriculture emphatically supports reesarch as a means of widening the uses of farm-produced commodities. Specifically we believe research is the most effective means of broadening the use of such commodities for industrial purposes.

The Department would welcome the opportunity to undertake an expanded program of utilization research. We made a request in our 1959 budget presentation to the Congress for further expansion of our on-going research work in this field. That request was substantially reduced by the Congress. Were the Congress now to create a new agency to undertake what the Department is now doing or what the Department can do, such an agency would likely have the same source of funds as the Department now has; namely, appropriations.

The fact is, no new administrative entity as proposed in S. 4100 is needed. We trust therefore that the bill will not be enacted.

Research on the development of new uses for agricultural products is now conducted in a separate unit in the Department. This unit has no other responsibilities. The Utilization Research Unit is separately budgeted and separately directed but its efforts are coordinated with all other research in the Department through the Administrator of the Agricultural Research Service and an Assistant Secretary of Agriculture.

Coordination of utilization research with related research is essential to effective utilization research.

Utilization, production, and marketing research are complementary. No one field can be neglected without adversely affecting the others.

Successful industrial uses are dependent upon efficient marketing practices and upon availability of raw materials of high quality in adequate supply. This, in turn, is dependent upon production research on problems that may affect raw-material supply, and improved production practices to lower raw-material costs. Utilization research cannot operate in a vacuum of other agricultural knowledge.

The Utilization Research Unit has modern facilities that can be enlarged to conduct any expanded program that is visualized. These laboratories are staffed with the most capable professional personnel in their fields in the country today, who are ready and eager to assume the responsibility for staffing and directing an expanded program in this area. The laboratories operate with the close counsel of more than 500 of the country's experts in the agricultural, industrial, and academic fields. They enlist the aid, through contract and other agreements, of universities, research institutions, and industrial users wherever such cooperation can further their programs. The laboratories have developed intimate working relationships with the industries that can best and most promptly accept and commercialize their successful research developments.

Furthermore, we are now engaged in utilizing foreign research resources to complement our own domestic utilization research work. Public Law 480 generated foreign currencies are being used for this effort.

The Department can effectively conduct a utilization research program of whatever magnitude and complexity the Congress may desire without the delay and confusion that would be inevitable with the creation of a separate agency even though such an agency is within the Department of Agriculture.

Present Department programs are closely coordinated with the research programs of the State agricultural experiment stations and with other public and private research agencies. These established, day-to-day working relationships are vital to the success of the research and must be maintained if our research is to continue to be most effective. To establish a new and separate administrator for utilization research would tend to destroy the present relationships without any compensating benefits. Moreover, the new agency proposed would be in competition with present efforts—a competition for which no benefit can be demonstrated.

Much has been said of the need for a hardheaded businessman's approach to the problem of developing new industrial uses for farm crops—for a dramatic promotional effort to encourage use of agricultural products as industrial raw material—for employing vigorous selling techniques and supersalesmanship to induce industry into accepting new products and processes. Properly timed and properly used, each of these has its place.

However, there are two steps in the commercialization of any new use or process and there is but one order in which they can occur. Research to discover what is to be applied must come first. Then, and only then, can translation to industrial use take place.

Research must be done by capable scientists under capable direction. It must be carried to the point where it can be shown that a product can be produced from agricultural raw materials to sell competitively with like products and that supplies of proper quality raw material are assured for continuing production. When this stage is reached, alert industries can readily determine whether manufacturing the product will provide enough profit to induce them to add it to their line or substitute it for existing items. If the product can be made profitably, industry will adopt it; if it cannot, industry will reject it and no "salesmanship" will alter its position.

Since this sequence of events in the commercialization of a new product or process is inescapable, premature promotional or sales campaigns can discredit research and be disastrous. On the other hand, promotional effort can be most effective if focused on accelerating the wide adoption of proven products and processes. This is precisely the present practice in the Department. Vigorous action is taken to accelerate the wide industrial adoption of new developments. There is now no great lag between the completion of research and industrial application of the results.

We also object to the creation of an independent agency because it would be in direct conflict with widely accepted principles of sound administration. The Department of Agriculture has already in operation a thoroughly competent organization amply staffed and equipped in part to undertake the job. To set up a new agency headed by an administrator, only nominally subject to the direction of the Secretary, would be to thwart the whole purpose of the Department reorganization to which this administration gave so much thought immediately upon assuming office. The Department's work is going forward smoothly and efficiently under the present organization. To erode the Secretary's authorities by creation of a new and separate agency in the Department would serve no useful purpose. It would only weaken his oversight of Department affairs and his ability to discharge his obligations as the responsible head of a Government department.

The bill contains certain other authorities that the Department does not regard as necessary or desirable. These are—

Subsection 4 (e): Incentive payments to farmers and to industry to hasten the establishment of a new crop or of a new industrial use. The general purposes of this provision can be achieved through exercise of existing authority. A contract can be set up with a farmer, for example, to grow a new crop under typical conditions and deliver it at harvest to one of our research installations for further experimental work or to a manufacturer for processing. The manufacturer too could, if need be, be paid through contract for manufacturing a newly developed product from the new crop or from any crop. Having acquired a supply of the new product it could be arranged through a third contract to place it experimentally in the various markets which might ultimately absorb it. It could thus be learned how it would be used and what it would bring in each such market, what its advantages and disadvantages might be as compared to related products and how its disadvantages might be overcome. The incentive payment provision of subsection 4 (e) is accordingly unnecessary.

Subsection 4 (g): Direct the Commodity Credit Corporation to make delivery of stocks of commodities to be used for research and other purposes. Extension of the responsibilities of the Commodity Credit Corporation as proposed by this subsection would impose a most difficult administrative load on the Corporation while accomplishing little or nothing toward attaining the objectives of the legislation. Furthermore, a directive to the Corporation to make available stocks for the broad purposes of subsection 4 (g) without reimbursement, except as might be derived from the use made, could result in huge losses to the Corporation which would have to be overcome by appropriations to restore capital impairment. It goes without saying that surplus stocks should be available under suitable safeguards for research purposes. Authority for making them available, however, already exists in other legislation. The provisions under which they can be made available are adequate. Subsection 4 (g) in the bill is unnecessary and undesirable.

Subsection 4 (1): Incentive payments to private citizens for suitable and acceptable suggestions to implement the program specified in the bill. The payment of incentives to individuals in accord with this subsection would not contribute to the success of utilization research. Though the mobilization of every possible idea on utilization research is a most worthy objective it would not be attained by the proposed means. The problems involved in administering such a system would be exceedingly difficult of solution. Primary protec-

tion is afforded the ideas of individuals through our long established and effective United States patent system. Through it ideas and inventions are characterized as property which can be sold, licensed or exercised for a return commensurate with their worth. Since their value can seldom be assessed accurately at their inception, it is clearly fairer to the inventor to let the return be based on actual use as would happen over a period of time under the patent system. The Department of Agriculture's files contain many research ideas of individuals submitted over the years. Many are good, through it is true the proportion is not great. Many, however, are already being investigated or have been investigated in the past and in many cases the same idea is submitted by several almost simultaneously. Administration of an incentive system would require staff and records comparable to those of the Patent Office itself. It would be much more satisfactory to obtain the services and ideas of individuals through consulting arrangements under existing authority.

S. 4100 does contain some provisions which would materially aid our present research work. Under the authorities of the Agricultural Adjustment Act of 1938 and the Research and Marketing Act of 1946, the financing of an expanded program of utilization research can be accomplished through regular appropriation processes should the Congress determine expansion is desired. However, there are certain additional authorities contained in S. 4100 that would materially aid in the conduct of our utilization and other research. These are—

1. Subsection 4 (b) : To make grants for limited periods to research institutions for conduct of new uses investigations. The science departments of the land-grant and other colleges and universities have experienced research people—professors and research assistants—that are capable of making substantial contribution to new uses research if provided support for their efforts. The Department does not now have authority to support the research of these individuals even though many are outstanding experts in their respective fields and could bring to bear upon the new uses problem unique experience and techniques. The Department's program would benefit materially by having opportunity to avail itself through grants of this pool of talent.

2. Subsection 4 (k) : To grant exclusive licenses for limited periods for the use of Government patents to carry out trial commercialization of new crops or new uses for agricultural products. Many patents are issued each year as the result of the Department's utilization research. These patents are assigned to the Secretary and are available for use free of any licensing charge by a competent organization desirous of operating under them. Under these circumstances many industrial organizations are reluctant to invest sizable sums in the developmental aspects of a new use or process covered by Government patent since they recognize that any other industrial organization can promptly take advantage of their experience and manufacture the same product. Were the Department able to grant an exclusive license for a limited period to a competent organization that is willing to undertake the expense of developmental studies on a Government invention, we believe the time when agricultural raw materials will be used for this purpose would be materially shortened. The exclusive licensing would provide a limited means for partially compensating industrial organizations for the cost of developmental studies.

3. Section 5: To provide graduate scholarships and fellowships to individuals pursuing studies in sciences having application in agricultural research. Agricultural research needs top-flight scientists of practically every discipline—chemists, engineers, bacteriologists, biologists. Expanding research programs in industry, medicine, and defense require such scientists, too, and competition for the best is brisk. Means for encouraging scientists to pursue graduate studies that will fit them for research on new uses for agricultural products would insure a supply of scientists capable of stepping into the Department's expanding programs after graduation. Many scientists are for the most part lost to Agriculture under present circumstances. We are planning to consult with the National Science Foundation regarding suitable steps aimed at meeting this situation. We, therefore, believe that action on this matter should be deferred.

4. Section 3: The part of this section that would fix the compensation of not more than 10 positions, which require the services of especially qualified professional personnel, at rates above the Classification Act authortiy would help the Department materially in retaining and recruiting research leaders. Competition for top-flight scientists is vigorous. An expanded utilization research program would require that we retain our present key scientists and recruit the best scientists we can obtain to assume leadership in new program phases.

As in the past, the Department recognizes the profound import of utilization research and is prepared to administer such programs to the full extent they may be authorized and supported by the Congress. An expanded utilization research program is needed. We have approximately doubled our research work in 5 years. We asked that it be further expanded. The Congress did not provide all the funds for this purpose which we requested.

Research can broaden current uses of agricultural commodities and it can develop new uses. But to do this most effectively, the program must be organized and conducted in a manner designed to make research effective.

The Department has been doing research for 96 years. It has had nearly two decades of successful experience in utilization research. We believe we know how research should be conducted. We have developed our current organization for research after much experience. It is a good organization. Utilization research can be expanded in this organization more effectively than in any other arrangement.

Key staff and facilities are available. We are ready to go. Expansion in this area will bring within reach objectives that otherwise will require years to attain.

The Bureau of the Budget advises that there is no objection to the submission of this report.

Sincerely,

E. L. PETERSON, *Assistant Secretary.*

The CHAIRMAN. We will now hear from our colleague, Congressman Bray.

STATEMENT OF HON. WILLIAM G. BRAY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. BRAY. I am appearing today in behalf of my bill, H. R. 9366, and similar measures to expand research into the uses of agriculture products. I believe this is of great importance not only to agriculture in America but to our entire economy. A long-range solution to the problems of overproduction must be found to bring stability to the farm economy. It must also be found to lighten the expense to the taxpayer of taking care of crop surpluses. I believe research can be the answer to both of these problems and, in addition, we will find products and uses which will further enhance our standard of living.

The work of George Washington Carver is the classic example of what ingenuity and industry can produce. He expanded the uses and consequently the demand for peanuts to such an extent that production doubled in a generation. The peanut crop is a primary source of income to southern agriculture today.

His work at Tuskegee Institute went far beyond the peanut, however. He used poor soil and overlooked plants and herbs and proved they could sustain people who would make use of them.

He contributed to the growth of farming techniques which has been phenomenal in the last half century. But most of our improvements have been directed to increasing the yield and improving the crop; we have not given enough attention to finding uses for these products besides human consumption for food.

That is the purpose of this legislation: To find uses for our surplus agriculture products, that will help to compensate for the increased production brought about by research in our schools and research, resourcefulness, and industry on our farms.

The possibilities are endless. Metallurgical oils apparently can be developed from grains. Synthetic rubber can be made from grain, and further development might reduce the cost to a practical level. From the gluten in grain a natural rubber may be produced. If grain-

made ethyl alcohol were blended with gasoline for automobiles, it would consume a tremendous quantity of grain.

There are nonindustrial uses which should be studied. Powdered whole milk, a near-fact, would expand the dairy market.

The new program would give fresh impetus to existing research programs, which are excellent but do not have the scope which is justified by the problem and the potential. The new efforts could largely be channeled into existing facilities, but with more emphasis and more Government support. One of the primary benefits of a program such as that proposed in this bill would be the impetus given to present research. By that I mean a shove in the right direction can move it more readily onto the course we all seek to achieve.

The cost of such a program should be compared with the cost of present farm programs, which have not been an overall solution, and with the potential benefits, which are really incalculable.

I appeared before this committee 2 years ago in behalf of similar legislation. In the intervening period, I have become all the more convinced this research must be accelerated. I am pleased that the Senate has passed such legislation and I hope the House will act quickly to expand such research in the interest not only of agriculture but of the entire Nation.

The CHAIRMAN. We will now hear from our colleague, Mr. Avery.

STATEMENT OF HON. WILLIAM H. AVERY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. AVERY. Mr. Chairman, I appreciate this opportunity to present testimony in support of my bill, H. R. 12384.

Briefly, the bill authorizes and directs the Secretary of Agriculture to conduct research into the finding of new, increased, extended, and perfected uses for farm products and to the finding of new farm products.

The bill gives the Secretary opportunity to use the most efficient methods of conducting the research. It allows him to expand and utilize commercial plants, make grants to agricultural experiment stations, colleges, universities and private nonprofit research institutions. In addition, it is possible to hire full-time employees as well as to use part-time consultants and establish appropriate advisory committees. The Secretary is authorized to establish salaries outside and above civil-service classifications not to exceed 100 positions requiring especially qualified scientific or professional personnel.

The Secretary is directed to report annually to the Congress on progress on research programs. The measure calls for an appropriation in the sum of $50 million for the first year and $100 million annually thereafter.

Over the years the farmers have changed from the largest majority group in the United States to an average minority group. We were 85 percent of the population 100 years ago and it is estimated by 1960 we will only represent 10 percent of the population.

By increasing our efficiency eightfold in the last 100 years we have produced part of us out of a job. Despite so-called production controls and the biggest export year in our history, we have about 1 year's supply of wheat now in storage.

As much as we want to produce the maximum, I think we are all realistic enough to recognize that we cannot continue to build storage, public or private, in which to store grain or other commodities beyond a time in which it can be preserved in useable condition.

We come then to this situation: we have the option of increasing domestic consumption, increasing exports, further reducing production by more rigid controls, or discovering and developing new uses for our surplus agricultural commodities by industrial uses. I think this last alternative presents great promise; that is why I introduced my bill.

In my opinion the Department of Agriculture has placed too much emphasis in recent years into increasing production by a variety of ways and has not kept pace with its research effort to find new uses for the added commodities that it was demonstrating could be produced by American agriculture. Congress must share some of this responsibility, but largely it is deficiency existing in the Department since World War II.

It is probably the result of an extensive effort to produce food to win the war and our research became so extended in this direction it was difficult to redirect this laboratory activity into outlet channels.

The 84th Congress established a five-man bipartisan commission charged with the duty of making recommendations designed to bring about the greatest practicable increase in the industrial use of agricultural products.

In carrying out this assignment, the Commission obtained the assistance of 188 of the country's outstanding leaders in agriculture, industry, and science, both from private and public agencies.

In evaluating the reports from these task forces one question was continually before the Commission: Can the economy develop profitable industrial markets capable of absorbing enough of the excess farm production to minimize or possibly eliminate the need for restrictions and surplus-disposal programs? The Commission believes very definitely this can be accomplished if certain steps are taken immediately to encourage and invite such development. They further make four specific recommendations:

1. To have farmers and industrialists become aware of the possibilities and urgency of industrial uses of agricultural products.

2. A program of applied and fundamental research to learn more about the nature of agricultural raw materials and to determine what existing or new industrial products and processes might use them.

3. To insure through fellowships and grants that more scientific talent is trained and channeled into this neglected field of farm-product research and development.

4. That it may be necessary to provide certain incentives during a trial period for new products in cases where it is expensive to launch a new product and there is some reluctance to risk private capital.

Of these recommendations, I consider research the most important. It is a slow, tedious laboratory process at best and it will not produce immediate results.

Over the years I feel the Department of Agriculture has been unrealistic in its research program. It is commonly stated that American industry invests 3 percent of its gross sales into research programs, and some industries as high as 7 percent.

In comparison, agriculture invests only one-half of 1 percent, about one-half of which is provided by Federal and State Governments. Secondly, I think the Department of Agriculture has overemphasized the increased production phase of the research program that is given to the increased usage for the product that is produced.

I think the bill is a realistic approach to the problem. It does not call for the establishment of another agency. Rather it proposes that the organizational arrangements be carried on within the basic framework of the Department of Agriculture. I am quite familiar with Kansas State College. This school would be a natural selection as an existing facility to conduct a portion of this needed research. Such an approach would permit the faculty at Kansas State, as well as other great agricultural schools, to serve in an advisory capacity to the research program.

In the past 25 years agriculture often has been researched right out of its own natural domains. Industry will continue to explore the unknown in search for new products and new uses for old products. Nothing is plainer in the economic pattern of today than that the agriculture must compete in the areas of basic and applied scientific research. Agriculture should be enabled to compete as an equal in the contest for consumer acceptance. It is now losing by default.

It is doubtful if we can ever recover the above markets, but they represent a further challenge to discover and to develop new markets in their stead.

In Atchison, Kans., there is a good example how farm products can be utilized in industry. In 1938 a new industry was announced in Atchison called Agrol. It was a wet milling industry to make gasoline from corn. It created quite a lot of attention for awhile but did not stay in production very long. After being closed for awhile it was reopened by the Mid-West Solvent Co. who engaged in the production of industrial alcohol. This has been an expanding business and now processes nearly 5,000 bushels of wheat a day and has done some progressive research on their own in better utilizing their byproducts for livestock feed.

I know the committee will give its close attention and consideration to this vital matter. I hope that action can be taken this session of Congress. In my opinion, this is a constructive approach to solve our problem of agricultural surpluses.

The CHAIRMAN. We will now hear from our colleague, Mrs. Kee of West Virginia.

STATEMENT OF HON. ELIZABETH KEE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WEST VIRGINIA

Mrs. KEE. Mr. Chairman, I appreciate very much this opportunity to appear before your committee in support of my bill, H. R. 13305, which would create an Agricultural Research and Industrial Board in the Department of Agriculture.

I do not come before you as an agricultural expert. Rather, I appear as a Member of Congress who is vitally interested in the welfare of the Nation's farmers. I believe, as you do, that a prosperous agriculture is essential to the national economy.

However, some of us might differ on levels of price support, acreage controls, and other features of the farm program, I am sure we can

all agree that increasing the market for agricultural commodities is one way of increasing farm income. To me, it logically follows that the best way to accomplish this worthy objective is to step up research activities devoted to this purpose.

Just look what has been accomplished through production research in a relatively short time. Department scientists have shown farmers how to produce more through improved farm practices. New varieties of just about every commodity have been developed through research. As you gentlemen well know, yields per acre are 3 and 4 times greater than those of 20 years ago.

It is true that utilization research has not been ignored by this committee nor by the Department of Agriculture. In fact, many significant results have been achieved. It is because our experience in this field of utilization research indicates that the potential is tremendous that I believe greater emphasis should be placed on it.

You are all familiar with the story of frozen orange juice, of how Department scientists devised a method of freezing orange concentrate without damaging the taste or vitamin content, and how this new process has been put to use in developing an entirely new frozen orange juice industry. The orange growers were materially benefited by this development. Citrus areas have directly benefited from the local, State, and Federal Governments have benefited through inestablishment of new industries employing thousands of people, while creased tax revenues. We need to duplicate this story many times over.

Many agricultural commodities in the past went into industrial uses. Giant industrial concerns, which spend millions of dollars annually on research, came up with manmade products which replaced the farm-produced commodities in many important markets.

What research has done for business it can do for agriculture. An agricultural research program will not compete with private industry. In fact, such a program will be complementary.

Mr. Chairman, I sincerely trust that this committee will approve legislation along the lines of H. R. 13305. Let's put science to work for farmers. Let us marshal the country's scientific manpower and know-how to point the way for bigger markets for all of our great agricultural commodities.

I am thoroughly convinced, Mr. Chairman, that every dollar we spend for agricultural research along this line will be returned severalfold. It is entirely possible, Mr. Chairman, that research can point the way toward markets large enough for farmers to prosper without costly artificial price props and restrictions upon production.

The CHAIRMAN. We shall now hear from Senator Curtis of Nebraska.

STATEMENT OF HON. CARL T. CURTIS, A UNITED STATES SENATOR FROM THE STATE OF NEBRASKA

Senator CURTIS. Mr. Chairman, it is a pleasure to get back in this building and see my friends. I appreciate the opportunity to testify here. Everybody is under a very close schedule and I will try to confine my remarks to 2 or 3 minutes.

A quarter of a century ago we were wrestling with the farm problem. How old it is I do not know. I expect that it runs back

to when time began, but a quarter of a century ago we were taking money out of the Treasury to produce idle acres. We were regulating and regimenting the farmer and restricting him and spending money to try to boost prices. Today we are doing the same thing. We call it the soil bank. Names change now and then.

How are we going to get at this problem? Well, I think the only way that we are going to get at it is the same way we split the atom; the same way that the Salk vaccine was produced; the same methods that have extended human life—it is through education, research, and the utilization of the things we have.

I have been thinking about this matter for a long, long time. As far back as 1945 I conducted a hearing before the Ways and Means Committee in connection with the trade agreements program to try to save the synthetic rubber plants for the farmers. Two distinguished gentlemen from my State appeared and testified. One was LeRoy Welch, who headed the bipartisan committee. The other was Dr. Christiansen, who was at that time paid by the University of Nebraska. That is all water that has gone over the dam.

In the next 5 years we are going to have a 50-percent increased consumption of synthetic rubber. If the farmers had that increase it would take 200 million bushels of grain.

We have failed to advance with industry. Industry spends 3 percent of gross sales on research for new and better products for the consumer. Agriculture's expenditures for that same purpose are perhaps about one-twentieth of 1 percent.

This bill before us is not a bill just enlarging research; it sets up the machinery and provides for trial commercialization and pilot testing. It provides authority to take Government surpluses. It provides authority to contract with private groups, with foreign groups, and with educational institutions. It is research plus a great many other things, and because of the shortness of time I will not mention them.

We have not only not gone forward, we have lost ground. Think of all of the houses built in this country since the 1930's. The paint market has been lost to synthetics, but if the paint now used was made of the oils used in the 1930's it would require 1 million more acres of flax. Two out of every three pairs of shoes have in them material other than leather. It is a product of research and trial commercialization. Our natural fabrics such as cotton and wool have been continually replaced by synthetics.

Some very well qualified engineers feel that starches can be used in our highway building program economically. Just think of that vast program.

I have always felt the farmers should share in the motor-fuel business, by using alcohol made from farm surpluses. We have a very definite problem. Gasoline is cheaper than alcohol.

Now, we cannot do this by compulsion. We cannot pass a law and then say, "Ladies must wear cotton hose instead of synthetics in order to solve the cotton problem." We cannot by law compel certain ingredients to go into motor fuel or rubber. But we can develop processes so that agriculture's products are competitive and I think with a little more work it would be possible to extract alcohol out of starches and have left a protein residue fit for human food. The

alcohol will become a byproduct. It is from your alcohol base that you start your hundreds of synthetics.

Another feature of this program is new crops. A beneficent providence has placed upon this earth about 250,000 plants. Do you know how many of them we have domesticated? One hundred and fifty. We have not scratched the surface on that. There are many new crops.

The task group report on new products is that bamboo can be raised throughout the entire South faster and more economically and with more profit than pine. It would not destroy pine. Pine could be used for paper as well as furniture and other things.

Now, the consumption of paper goes up with the increase in our population, and the use of paper per person increases. We use it so much in our homes and in our offices, and elsewhere. Paper from bamboo could use most of the idle acres in the Cotton Belt.

Now, with regard to the Senate bill, it is a composite of many people's ideas. I introduced the bill in 1956. I reintroduced it as an amendment to the Agricultural Act of 1956. The committee accepted it and brought forth the Welsh report.

Now there are two things about the Senate bill that I would like to call your attention to. One is that in a progam such as this research and trial commercialization and contracts with institutions, we should have a continuity of programs. Peaks and valleys are very bad. You cannot hold your scientists, you cannot interest business, you cannot interest farmers or anyone else if you are going to run one year and stop the next. The bill that I introduced follows the Welsh Commission report in that it requires a set-aside of 15 percent of our customs revenues to finance the program. I realize there are objections to earmarking revenue, but I seriously commend that feature to this committee for your consideration. If you cannot do that we should work out something else to assure a steady program.

Now, another idea was taken out of the committee bill because the Senate did not have the jurisdiction, and that is the question of a rapid amortization for tax purposes of plants set up to use farm products. We do it in our defense program. We help every industry out with rapid tax amortization to get them started. We built the great grain storage of the country with private enterprise by rapid tax amortization and saved the Treasury the task of building that and having it Government owned. Those two features I hope you will give consideration to. The Senate could not initiate a tax proposal.

Now, Mr. Chairman, I have gone a few minutes longer than I intended to. That is all that I wish to say at this time.

I appreciate the opportunity to appear here.

The CHAIRMAN. We appreciate having you here.

Senator CURTIS. I might say this, on the question of what department to put it in, this is a specialized job that has to be in effect for many, many years. It probably ought to go in the Department of Commerce. It is a businessman's job and it is an industrial job.

Mr. DIXON. How would you develop your new crops for industry through the Department of Commerce?

Senator CURTIS. You would not. You would do that the same as you do it now. I am not advocating that it be in the Department of Commerce. I am supporting the Senate bill. It was a compromise

of everybody's views, and I think that we are going to have to compromise here. I think that the departments are going to have to choose betwen compromise and defeat of this program.

Mr. DIXON. Does the gentleman know that our two bills here direct the Department of Commerce to take over immediately upon the completion of the research by the Department of Agriculture so that the Department of Commerce can put the products into industry?

Senator CURTIS. We are aware of that.

The CHAIRMAN. Thank you very much.

We shall now hear from Dr. Miller of the State of Nebraska.

STATEMENT OF HON. A. L. MILLER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

Mr. MILLER. May I file my statement and briefly tell you my thoughts on this legislation?

The CHAIRMAN. Without objection, it will be filed at this point in the record.

(The statement referred to follows:)

STATEMENT OF HON. A. L. MILLER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

This country has spent many hundreds of millions of dollars on research in agriculture in an effort to learn how to raise more crops. The success has been phenomenal with new hybrid seeds, fertilizer, use of pesticides and new farming methods. We are producing more and more on fewer acres of land with fewer people farming. There has been a revolution going on in agriculture. I believe it is progress just as it was progress to leave the rake and the hoe and the hand tools and go to all of the mechanical contrivances now found on farms.

This country has been negligent in not spending more money and doing more research on just how surplus agriculture products might be utilized by industry.

The Welsh report was issued nearly a year ago which points the way for the better utilization of surplus farm crops. The Welsh Commission was appointed by the President with a Mr. Roy Welsh of Omaha as its Chairman. They did a great deal of research work on the question of the use of agriculture products by industry. It was an interesting bit of work that they completed. They pointed out that there were dozens of ways that agriculture products could be utilized by industry. They recommended legislation along this line.

I introduced legislation in March of 1958 to implement the findings of the Welsh report. The other body was moved forward and passed their version of a bill which would utilize agriculture products. The House, now in its closing days of the Congress, ought to move promptly in the same direction.

It is hardly necessary to point up item by item and wide use for which grains can be used by industry. There has been some use, but it can be greatly increased. Grain can be used for cellophane products. It can be used in many plastics. European countries for many years have been using from 3 to 10 percent of alcohol derived from farm products in their gasoline.

It seems to me that the Mideast crisis points up the need for this Nation to get busy and learn how to make greater industrial use of farm products, particularly in the use of alcohol as a fuel. Who knows what the mideast supply of oil may be 3, 5, or 10 years from now. Europe and this country may be cut off from that oil supply or be made to pay blackmail prices to get any of that oil.

Mr. Elton Berck, the president of the Nebraska Farmers Union, recently said and I quote, "Isn't it high time that we put our farm surpluses to work in augmenting world fuel and rubber supplies?"

We already know how to make alcohol from the starches of grain. Alcohol is a basic product that can be turned to a score of more of industrial uses.

In the Welsh report the scientists agree that starch which American farms produce in such huge supplies are resources of energy which can be made useful to mankind just as minerals out of earth are now being used. Moreover the starches from agriculture products are replaceable resources. Replaceable every

year that a crop can be grown. This country has a questionable supply of mineral resources. The surplus grain under our new research program will be increasing each year. It will be the largest this year of corn and wheat this country has ever experienced.

There is an alcohol plant in Omaha ready to use. Ready to turn surplus farm products, be they inferior, such as spoiled potatoes and grain, or any agriculture products into industrial grain alcohol. There are other industrial uses from which farm products can be developed. It requires the starch of grain. The alcohol is merely a byproduct.

The bill I introduce, and which is before the committee, has for its purpose the turning of surplus products into industrial alcohol or for any other industrial use.

I honestly believe that the time is coming when mankind can no longer depend upon its fuel from a hole in the ground. It cannot depend upon the miles of pipelines and huge fleets of tankers. There are too many international pressures and tensions which may wipe the foreign sources of oil off the map overnight.

I urge this committee to report a bill similar to the one reported by the other body. It does set up a commission which puts into action the use of more farm products for industry. I believe it offers a hope of solutions for our surplus farm products. It offers some degree of security from dependency upon foreign oil supplies or upon holes in the ground.

The other body passed this bill 81 to 0. I am urging the House committee to promptly report the bill so that this type of good legislation which to me has been too long delayed may be law in 1958.

Mr. MILLER. I am not particularly interested in what department handles the research work on using agricultural products in industry, but I think that it ought to be done and done promptly. We are moving too slowly in it.

I approach this problem from an entirely different view. I look upon agricultural products as resources of America, just as our minerals.

Starch is power. From starch we make alcohol and a lot of other synthetics. As our population grows, we are going to need more and more. Who in this room can say that next year, or 5 or 10 years from now, we can depend upon a hole in the ground to get our power from, to get our resources from? Starch is a resource. From all of your agricultural products you have cellulose, power, things that make industry and the wheels of the United States move along.

I just want to impress the committee with that.

I have no pride of authorship. I have introduced a bill for several years on this subject. I thought that the Senate bill, because it passed with such a big majority, might be the answer to it, but if this committee wants to keep it in the Department of Agriculture that is all right, but we ought to move promptly. We have a pilot plant in Omaha now, an alcohol plant used during the war, and it could today be turning out alcohol from surplus crops if we set our minds to it.

The Secretary of Agriculture is opposed to taking over that plant. Maybe he has a good reason. We have had a number of those plants that have been sold, rubber plants and alcohol plants. We need to move in that direction.

The research has been done. We know how to make alcohol and rubber and synthetics. It needs to be stepped up. The whole strength of America may well depend on how much power we can get in the future when we lose our oil and some of the resources that we have here at home.

The CHAIRMAN. We appreciate your appearance before the committee.

We shall now hear from Mr. E. L. Peterson, Assistant Secretary of Agriculture.

STATEMENT OF HON. E. L. PETERSON, ASSISTANT SECRETARY OF AGRICULTURE

MR. PETERSON. I appreciate that you are pressed for time and if it will be helpful to the committee I will be glad to file my statement and go directly to the questioning.

The CHAIRMAN. You may file it.

(The statement referred to follows:)

STATEMENT OF E. L. PETERSON, ASSISTANT SECRETARY OF AGRICULTURE

Mr. Chairman, we are glad to discuss with your committee the Department's views concerning S. 4100, a bill to provide for the increased use of agricultural products for industrial purposes.

The Department of Agriculture emphatically supports research as a means of widening the uses of farm-produced commodities. Specifically we believe research is the most effective means of broadening the use of such commodities for industrial purposes. The Department would welcome the opportunity to undertake an expanded program of utilization research. However, no new administrative entity as proposed in S. 4100 is needed. We trust therefore that the bill will not be enacted. We are in accord with and would favor the enactment of either of two identical bills now before the House, H. R. 13513 and H. R. 13605. Our opposition to S. 4100, which creates a new administrative agency in the Department, will be discussed first.

Research on the development of new uses for agricultural products is now conducted in a separate unit in the Department. This unit has no other responsibilities. The Utilization Research Unit is separately budgeted and separately directed but its efforts are coordinated with all other research in the Department through the Administrator of the Agricultural Research Service and an Assistant Secretary of Agriculture.

Coordination of utilization research with related research is essential to effective utilization research.

Utilization, production, and marketing research are complementary. No one field can be neglected without adversely affecting the others.

Successful industrial uses are dependent upon efficient marketing practices and upon availability of raw materials of high quality in adequate supply. This, in turn, is dependent upon production research on problems that may affect raw-material supply, and improved production practices to lower raw-material costs. Utilization research cannot operate in a vacuum of other agricultural knowledge.

The Utilization Research Unit has modern facilities that can be enlarged to conduct any expanded program that is visualized. These laboratories are staffed with the most capable professional personnel in their fields in the country today, who are ready and eager to assume the responsibility for staffing and directing an expanded program in this area. The laboratories operate with the close counsel of more than 500 of the country's experts in the agricultural, industrial, and academic fields. They enlist the aid, through contract and other agreements, of universities, research institutions, and industrial users wherever such cooperation can further their programs. The laboratories have developed intimate working relationships with the industries that can best and most promptly accept and commercialize their successful research developments.

Furthermore, we are now engaged in utilizing foreign research resources to complement our own domestic utilization research work. Public Law 480 generated foreign currencies are being used for this effort.

The Department can effectively conduct a utilization research program of whatever magnitude and complexity the Congress may desire without the delay and confusion that would be inevitable with the creation of a separate agency even though such an agency is within the Department of Agriculture.

Present Department programs are closely coordinated with the research programs of the State agricultural experiment stations and with other public and

private research agencies. These established day-to-day working relationships are vital to the success of the research and must be maintained if our research is to continue to be most effective. To establish a new and separate administrator for utilization research would tend to destory the present relationships without any compensating benefits. Moreover, the new agency proposed would be in competition with present efforts—a competition for which no benefit can be demonstrated.

Much has been said of the need for a hardheaded businessman's approach to the problem of developing new industrial uses for farm crops—for a dramatic promotional effort to encourage use of agricultural products as industrial raw material—for employing vigorous selling techniques and super-salesmanship to induce industry into accepting new products and processes. Properly timed and properly used each of these has its place. However, there are two steps in the commercialization of any new use or process and there is but one order in which they can occur. Research to discover what is to be applied must come first. Then, and only then, can translation to industrial use take place.

Research must be done by capable scientists under capable direction. It must be carried to the point where it can be shown that a product can be produced from agricultural raw materials to sell competitively with like products and that supplies of proper quality raw material are assured for continuing production. When this stage is reached, alert industries can readily determine whether manufacturing the product will provide enough profit to induce them to add it to their line or substitute it for existing items. If the product can be made profitably, industry will adopt it; if it cannot, industry will reject it and no "salesmanship" will alter its position.

Since this sequence of events in the commercialization of a new product or process is inescapable, premature promotional or sales campaigns can discredit research and be disastrous. On the other hand, promotional effort can be most effective if focused on accelerating the wide adoption of proven products and processes. This is precisely the present practice in the Department. Vigorous action is taken to accelerate the wide industrial adoption of new developments. There is now no great lag between the completion of research and industrial application of the results.

We also object to the creation of an independent agency because it would be in direct conflict with widely accepted principles of sound administration. The Department of Agriculture has already in operation a thoroughly competent organization amply staffed and equipped in part to undertake the job. To set up a new agency headed by an administrator, only nominally subject to the direction of the Secretary, would be to thwart the whole purpose of the Department reorganization to which this administration gave so much thought immediately upon assuming office. The Department's work is going forward smoothly and efficiently under the present organization. To erode the Secretary's authorities by creation of a new and separate agency in the Department would serve no useful purpose. It would only weaken his oversight of Department affairs and his ability to discharge his obligations as the responsible head of a Government department.

S. 4100 contains certain other authorities that the Department does not regard as necessary or desirable. These are:

Subsection 4 (e): Incentive payments to farmers and to industry to hasten the establishment of a new crop or of a new industrial use. The general purposes of this provision can be achieved through exercise of existing authority. A contract can be set up with a farmer, for example, to grow a new crop under typical conditions and deliver it at harvest to one of our research installations for further experimental work or to a manufacturer for processing. The manufacturer too could, if need be, be paid through contract for manufacturing a newly developed product from the new crop or from any crop. Having acquired a supply of the new product it could be arranged through a third contract to place it experimentally in the various markets which might ultimately absorb it. It could thus be learned how it would be used and what it would bring in each such market, what its advantages and disadvantages might be as compared to related products and how its disadvantages might be overcome. The incentive payment provision of subsection 4 (e) is accordingly unnecessary.

Subsection 4 (g): Direct the Commodity Credit Corporation to make delivery of stocks of commodities to be used for research and other purposes. Extension of the responsibilities of the Commodity Credit Corporation as proposed by this subsection would impose a most difficult administrative load on the Corporation while accomplishing little or nothing toward attaining the objectives of the

legislation. Furthermore, a directive to the Corporation to make available stocks for the broad purposes of subsection 4 (g) without reimbursement, except as might be derived from the use made, could result in huge losses to the Corporation which would have to be overcome by appropriations to restore capital impairment. It goes without saying that surplus stocks should be available under suitable safeguards for research purposes. Authority for making them available, however, already exists in other legislation. The provisions under which they can be made available are adequate. Subsection 4 (g) in the bill is unnecessary and undesirable.

Subsection 4 (l): Incentive payments to private citizens for suitable and acceptable suggestions to implement the program specified in the bill. The payment of incentives to individuals in accord with this subsection would not contribute to the success of utilization research. Though the mobilization of every possible idea on utilization research is a most worthy objective it would not be attained by the proposed means. The problems involved in administering such a system would be exceedingly difficult of solution. Primary protection is afforded the ideas of individuals through our long-established and effective United States patent system. Through it ideas and inventions are characterized as property which can be sold, licensed, or exercised for a return commensurate with their worth. Since their value can seldom be assessed accurately at their inception, it is clearly fairer to the inventor to let the return be based on actual use as would happen over a period of time under the patent system. The Department of Agriculture's files contain many research ideas of individuals submitted over the years. Many are good, though it is true the proportion is not great. Many, however, are already being investigated or have been investigated in the past and in many cases the same idea is submitted by several almost simultaneously. Administration of an incentive system would require staff and records comparable to those of the Patent Office itself. It would be much more satisfactory to obtain the services and ideas of individuals through consulting arrangements under existing authority.

We would now like to discuss our reasons for supporting the identical bills H. R. 13513 and H. R. 13605. These bills vest all authorities and responsibilities placed on the Department in the Secretary of Agriculture. This will permit the continued coordination of utilization research with all other agricultural research and thus enhance our opportunities to make progress in utilization research. In addition, these bills contain all the authorities in S. 4100 that would materially aid in the conduct of our utilization and other research. These are:

Authority to make grants for limited periods to research institutions for conduct of new uses investigations. The science departments of the land-grant and other colleges and universities have experienced research people—professors and research assistants—that are capable of making substantial contribution to new uses research if provided support for their efforts. The Department does not now have authority to support the research of these individuals even though many are outstanding experts in their respective fields and could bring to bear upon the new uses problem unique experience and techniques. The Department's program would benefit materially by having opportunity to avail itself through grants of this pool of talent.

Authority to grant exclusive licenses for limited periods for the use of Government patents to carry out trial commercialization of new crops or new uses for agricultural products. Many patents are issued year after year as the result of the Department's utilization research. These patents are assigned to the Secretary and are available for use, free of any licensing charge, by a competent organization desirous of operating under them. Under these circumstances many industrial organizations are reluctant to invest sizable sums in the developmental aspects of a new use or process covered by Government patent since they recognize that any other industrial organization can promptly take advantage of their experience and manufacture the same product. Were the Department able to grant an exclusive license for a limited period to a competent organization that is willing to undertake the expense of developmental studies on a Government invention, we believe the time when agricultural raw materials will be used for this purpose would be materially shortened.

The exclusive licensing would provide a limited means for partially compensating industrial organizations for the cost of developmental studies, authority to provide graduate scholarships and fellowships to individuals pursuing studies in sciences having application in agricultural research; means for encouraging

scientists to pursue graduate studies that will fit them for research on new uses for agricultural products would insure a supply of scientists capable of stepping into the Department's expanding programs after graduation; authority to fix the compensation of not more than 100 positions to carry out the purposes of this act or other acts authorizing research in agriculture which require the services of especially qualified scientific or professional personnel.

Competition for top-flight scientists is vigorous. An expanded research program would require that we retain our present key scientists and recruit the best scientists we can obtain to assume leadership in new program phases.

H. R. 13513 and H. R. 13605 contain additional authorities, not included in S. 4100, that we believe are desirable. These are:

Authority for the Secretary of Commerce to conduct investigations into the economic feasibility of industrial uses of farm products and assist in promoting their utilization. This authority would enable the Department of Commerce to encourage and assist industry on the utilization of new industrial products made from agricultural raw materials and would speed up the adoption of new developments.

Authority to create an Agricultural Research and Industrial Board of industrial, agricultural, and scientific experts to advise on research, bring new uses for farm crops forcefully to the attention of industry, and assist in the translation of research results to industrial use. This Board, to be appointed by the President, would have at least 2 members with broad industrial background, 2 with broad agricultural background, and 2 with broad scientific background. It would advise the Secretaries of Agriculture and Commerce on the conduct of their program and would give strength to the total effort.

We desire to point out that at least one provision in these bills is treated in other legislation before the Congress. Because of time limitations it may be appropriate to correlate, with other proposed legislation, 1 or 2 features of these bills, such as scholarships, which have already progressed satisfactorily under the President's program.

As in the past, the Department recognizes the profound import of utilization research and is prepared to administer such programs to the full extent they may be authorized and supported by the Congress. An expanded utilization research program is needed. We have approximately doubled our research work in 5 years. We have asked that it be further expanded. The Congress did not provide all the funds for this purpose which we requested.

Research can broaden current uses of agricultural commodities and it can develop new uses. But to do this most effectively, the program must be organized and conducted in a manner designed to make research effective.

The Department has been doing research for 96 years. It has had nearly two decades of successful experience in utilization research. We believe we know how research should be conducted. We have developed our current organization for research after much experience. It is a good organization. Utilization research can be expanded in this organization more effectively than in any other arrangement.

Key staff and facilities are available. We are ready to go.

Mr. PETERSON. I would just like to say this much: We in the Department fully appreciate the sincerity and the interest of all Members of Congress and people outside of the Congress who are concerned with accelerating research to find new uses and broader uses in industry for agricultural commodities. I think the difference of view is not with the purpose. The difference of view is entirely with the administrative organization.

We are not objecting to any detraction of the authority of the Secretary of Agriculture. Our objections are based upon the fact there is duplication as provided in S. 4100.

The Department of Agriculture has a research organization. It has established working relationships with land-grant colleges and universities and with private institutions. We are now initiating contracts with industry and foreign institutions using Public Law 480 funds.

This is an old established organization. We have been in research a long time. The Congress, when it passed the Research and Marketing Act of 1946, if I am correctly informed, set that up as an independent agency, or semi-independent agency. That legislation was later consolidated. The organization of research within the Department has been reorganized by the Reorganization Act of 1953, and the internal reorganization more recently, so presently the utilization research is in 1 unit of the Department, under 1 director, and with 1 purpose. It is coordinated with all other research of the Department of Agriculture and we most sincerely believe, that with funds in whatever magnitude the Congress may see fit to provide, we can accomplish everything with the organization we now have that can be accomplished under the provisions of S. 4100.

This year, you may recall, we asked for an increase in appropriations for this type of research and the Congress reduced our request by some $2,400,000.

Mr. POAGE. Where was that reduced? Was it reduced in the Appropriations Committee, or on the floor? What specific agency of the Congress reduced it?

Mr. PETERSON. It was reduced in the Appropriations Committee of the House, and the Senate concurred.

The CHAIRMAN. If I understand you, your views are that you might need additional authority. You do feel that you need some authority and you need some money but you do not want a separate agency set up in your Department or anywhere else in Government?

Mr. PETERSON. That is correct, Mr. Chairman. There are certain authorities, particularly those provided for in Congressman Hill's bill and Congressman Dixon's bill we think would be most helpful. Presently public patents are held by the Secretary of Agriculture. They are licensed to any person requesting their use. Just recently the Commerce Department and the Department of Agriculture got together on this matter. We are in agreement that there should be exclusive right to use a public patent for a period of time so that a manufacturer intending to develop a new product using agricultural commodities would have an opportunity to develop that product, move it into channels of trade, and get it established and get some of the benefits, or some of the costs back again. We have not had that authority up to this time. We think the authority for scholarships and grants is desirable and there are 1 or 2 others.

The CHAIRMAN. They are set out in the Secretary's letter?

Mr. PETERSON. That is correct.

Mr. POAGE. May I ask Mr. Peterson this? You say that the Agricultural Subcommittee of the House Appropriations Committee reduced the amount or refused to grant you the money you asked for research?

Mr. PETERSON. For utilization research.

Mr. POAGE. Utilization research?

Mr. PETERSON. Yes.

Mr. POAGE. That same committee is conducting some research of its own, is it not, and they are asking you for aid in doing it; is that not so? For instance, on hogs; are they not conducting some research of their own as to what type of hog sells most readily?

Mr. PETERSON. We have many items, as you know, that are earmarked in the appropriations process for certain activities.

Mr. POAGE. I am asking you is not that committee, through their own committee staff, carrying on research?

Mr. PETERSON. Not to my knowledge, Mr. Poage.

Mr. POAGE. Are you not furnishing them assistance, a staff to do it, at their request?

Mr. PETERSON. Not to my knowledge.

Mr. POAGE. I think if you will look into it you will find that you are.

Mr. PETERSON. We may be.

Mr. POAGE. I think you will find that they are conducting the very thing that this bill proposes, but the Appropriations Committee of the legislative body is doing it.

Mr. PETERSON. That has not come to my attention but I will look into it and supply the information.

(The information referred to above is as follows:)

No research funds of the Department have been transferred to the House Subcommittee on Agricultural Appropriations for conducting a study of meat-type hogs. The Department itself has conducted a study on the subject at the suggestion of the House Subcommittee on Agricultural Appropriations.[1] Following the conclusion of the Department's study, a Department staff member did accompany members of the House Subcommittee on Agricultural Appropriations and a staff member of that committee to Canadian-United States hog-marketing centers to observe the difference in hog quality and marketing methods that had been described in the Department's research report.

The report of the Department USDA Marketing Research Report No. 227, Marketing Meat-Type Hogs: Problems, Practices and Potentials in the United States and Canada, was summarized by Dr. H. C. Trelogan, Director, Marketing Research Division, Agricultural Marketing Service, during the hearings on the 1959 Department of Agricultural appropriation bill, before the House Subcommittee of the Committee on Appropriations.[2]

Dr. Trelogan's testimony described past, present, and planned swine breeding and nutrition research and other related work carried out and supervised by the Department at State and Federal stations. Also discussed were studies of the physical makeup of the hog and carcass. The studies were made for the purpose of finding improved methods of measuring, estimating, and predicting quality. The present standards for grades of slaughter barrows and gilts and for barrow and gilt carcasses were proposed by the Department in 1949, and adopted as official in 1952. These standards, and their slight modification in 1955 were mentioned in Dr. Trelogan's testimony, along with the Department's plans for future work in the development of standards for other classes of swine and for pork.

Studies of consumer preferences and attitudes toward pork were also discussed. The Department's work with farmer cooperatives in encouraging meat-type-hog production and the marketing of hogs on a price-differential basis was mentioned.

The Department's Cooperative Extension Service for several years has placed a high priority on educational and demonstrational work in the production and marketing of meat-type hogs. The work of the Extension Service was discussed under the following headings: (1) Leader Training, (2) Educational Methods, (3) Swine Evaluation, (4) Market Hog Grading, and (5) Pricing.

The Department's report indicated that the study group found that the average quality of Canadian market hogs was very high by United States standards. They learned that most of the progress in improving the quality of market hogs in Canada was made from 1928 to 1940.

During the early part of this period, live-hog grading became compulsory in one Province after another. Prices paid by Canadian meatpackers for the various grades were studied. The price differences between grades are much higher in Canada than they are in the United States.

[1] H. Rept. No. 438, 85th Cong., 1st sess., to accompany H. R. 7741, Department of Agriculture and Farm Credit Administration appropriation bill, 1958.

[2] House hearings, Department of Agriculture appropriations, fiscal year 1959, pt. 3, pp. 1340–1341.

The conclusion of the Department's study team was that wide use of a uniform method of grading combined with larger price differentials between grades, would speed progress by encouraging farmers to seek and use meat-type breeding stock. Department research has found ways to select leaner and faster-growing animals for breeding stock.

The CHAIRMAN. That is a very diligent committee. The House is now in session, and we have had a quorum call. We thank you very much for coming. I think that we have the Department's views from you and also from Mr. Morse.

Mr. PETERSON. We will be glad to return or accommodate ourselves to the wishes of the committee.

The CHAIRMAN. Thank you very much.

Judge Saund, do you have a statement?

STATEMENT OF HON. D. S. SAUND, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. SAUND. I do not have a prepared statement, Mr. Chairman. I just want to urge the adoption of some kind of program. I introduced a bill similar to that of the chairman of the subcommittee, Mr. Abernethy, last year. I just urge that the committee will report some kind of bill and let us have legislation that will give impetus to the utilization of agricultural products.

The CHAIRMAN. Thank you very much.

Mr. PETERSON. May I ask the privilege of inserting into the record a table on cost of agricultural program.

The CHAIRMAN. Without objection that will be inserted in the record.

(The table referred to follows:)

Cost of agricultural program

20 years prior to 1953	$7,174,100,000	1957	$3,255,400,000
1953	329,400,000	1958	4,887,000,000
1954	964,300,000	1959 (estimated)	6,005,000,000
1955	1,349,900,000		
1956	1,936,100,000	Total	25,901,200,000

The CHAIRMAN. We shall now hear from our colleague, Mr. Weaver of Nebraska.

STATEMENT OF HON. PHIL WEAVER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

Mr. WEAVER. Mr. Chairman and gentlemen of the committee, I appreciate the opportunity to make a statement before your committee today in behalf of my bill, H. R. 8428, and similar bills which would provide for the increased use of agricultural products for industrial purposes.

Coming from a great agricultural State such as Nebraska, I am keenly interested in the enactment of this legislation and I trust that this committee will favorably report to the House floor for consideration a bill along these lines. The Members of our congressional delegation are in unanimous agreement and wholeheartedly support this legislation.

With our expanding population, Mr. Chairman, certainly we must develop to the maximum research for the industrial uses of farm products. An additional marketplace for our products will help to bring farm output into balance. Since the dawn of history, mankind has been concerned with protecting his food supply from the ravages of drought and flood. Through technical assistance in soil-conservation and related programs, our farmers have learned to combat the elements so successfully that our challenge today to a great extent is the continued production of more food and fiber than can be consumed or exported at a profit. I think that it is only fitting against this background that we consider the needs for increased research and development work in the field of industrial uses of farm products. Research on industrial uses is going on daily in the laboratories of private industry and to some extent in university and Government centers.

Private and public research combined amount to less than 1 percent of sales in agricultural fields. In contrast, manufacturing industries are spending about 3 percent of their sales income on research. Industry is probably spending 3 to 5 times as much proportionately on research as is being spent on agriculture, and it is significant, I think, to note that most of agriculture's research funds are spent on research to increase efficiency of agricultural production. Of each $100 appropriated by Congress for agricultural research, about $65.50 has been spent for production research, $12.50 for marketing, and $22 for utilization research. This latter includes food as well as industrial research.

A classic example of what ingenuity and industry can produce is the work of George Washington Carver. He expanded the uses and demand for peanuts to such an extent that production doubled within a generation.

I might point out that metallurgical oils can be developed from grains. Starches may have a number of important new industrial uses. From the gluten in grain, a natural rubber may be produced. New higher oil-producing varieties of corn are in prospect. May I point out, Mr. Chairman, too, that new crops, such as safflower, a dry-climate thistle, offer possibilities for developing profitable substitutes for a part of the existing products of our standard feed grains and wheat. This plant yields a high-quality oil which is adapted for use in a wide variety of industrial products in addition to being edible. Approximately 100,000 acres of this crop were grown in California and in western Nebraska in 1956. It is an excellent example of opportunities for expanded research, which should pay back dividends to agriculture and to our entire economy. As one can see, the possibilities are endless.

With storage costs for our surplus farm products running into the hundreds of millions of dollars each year, it would seem that a wise policy would be one in which more funds were directed toward research and development in this field. What is needed is a new program such as this proposed legislation offers, which would give fresh impetus to existing research programs. I understand that the United States Department of Agriculture has a long list of projects worthy of consideration in an expanding utilization research program. Some

of them have to do with the development of low-cost processes separating proteins from the starches in the grains. Others have to do with developing starches from grains which are better adapted to specific industrial uses. Still others are concerned with the production of rubbers from grains.

Research proposals of interest to farmers in Nebraska also include improved strains of corn for specific industrial use, new crops and new industrial uses for byproducts of the livestock industry. The Department of Agriculture also has a list of other proposed products which offer possibilities for expanding the industrial use of soybeans, cotton, rice, peanuts, and forage crops. With a list of research products such as this, and in view of our bulging granaries, it would seem that a great expansion in research on industrial uses of farm products is surely in order.

In conclusion, Mr. Chairman, I would like to commend my fellow Nebraskan, Roy Welsh of Omaha, for the splendid work he has performed and the service he has rendered as Chairman of the President's Commission on Increased Industrial Uses of Agricultural Products.

And as a final word to the distinguished members of this committee, may I urge that prompt and favorable consideration be given to this legislation.

The CHAIRMAN. The committee will now stand adjourned subject to the call of the chairman.

(Without objection by the chairman the following letters are inserted in the record:)

HOUSE OF REPRESENTATIVES,
Washington, D. C., August 8, 1958.

Hon. HAROLD D. COOLEY,
Chairman, Committee on Agriculture,
House of Representatives, Washington, D. C.

DEAR CHAIRMAN COOLEY: I should very much like to register my endorsement of the proposals being studied by your committee today calling for legislation to promote research into increased use of agricultural products in industry.

As you may recall, I introduced a bill in 1956 calling for creation of an industrial use research program within the Department of Agriculture. I felt then, as I feel now, that money expended for such research would be about as effective as anything we might do to assist the farmers of this Nation.

We are a Nation blessed with an abundance of agricultural products—such an abundance that farmers in recent years have been troubled with price-depressing surpluses. Despite aggressive efforts to promote overseas markets, despite various forms of Federal acreage-control programs, the surplus problem has continued.

If, through research, we can increase the use of agricultural products in industry, we will be rendering a real service to the farmers of America, for in so doing we will be meeting the problem of surplus production which depresses agriculture today.

I sincerely hope the committee, as a result of today's hearings, will promptly report to the House an agricultural research bill along the lines of the measure recently passed by the Senate.

Thank you for making it possible for me to present these views. With best wishes, I am,

Sincerely,

CECIL M. HARDEN.

AMERICAN FARM BUREAU FEDERATION,
August 8, 1958.

HON. HAROLD D. COOLEY,
Chairman, House Agriculture Committee,
House of Representatives, Washington, D. C.

DEAR MR. COOLEY: I regret that time would not permit my appearance this morning before your committee, however, I recognize the pressure for time due to the 11 o'clock meeting of the House. I'd like to request that this letter be made a part of the record in connection with the hearing on increased use of or other grains for this purpose.

The policies and actions of the American Farm Bureau Federation with regard to agricultural research is well known to the Agriculture Committees and to the Appropriations Committees. We have long been advocates of increased emphasis on marketing and utilization research. We recognize that the primary emphasis of these hearings is centered around research for increased industrial uses for agricultural commodities; however, we would like to continue to emphasize the need for production research in order to lower our costs. I'm sure that the members of the committee are aware of this great need for continued emphasis on this type of research.

With regard to S. 4100 we would make the following general and specific comments.

(1) We believe that the basic objectives as stated in section 1 of this bill are sound. We would call your attention to line 4, page 3, and line 7, page 7, which implies that the Government will get into the commercial application of research findings. We think this language should be deleted.

(2) Paragraph (h) of section 1, page 3, could be misused if not thoroughly understood. We are for continued emphasis on research programs designed to find industrial uses for surplus CCC commodities; however, we do not support a program that would require huge subsidies from the Federal Treasury in order to make these products competitive. For example, it is indicated that in order to make industrial alcohol out of corn that the corn would only be worth about 40 cents per bushel. Certainly, it is obvious that in such cases more basic research is needed before we launch out on any large program for the utilization of corn or other grains for this purpose.

(3) We recommend that section 2 of the bill (S. 4100) be deleted and that provision be made for an Assistant Secretary of Agriculture to head up the agricultural research work in the Department of Agriculture. It is our view that we will not accomplish any more research for increased industrial uses of agricultural commodities by setting up a new agency or division within the Department of Agriculture. However, we believe that giving research work the dignity and direction of an Assistant Secretary of Agriculture will be an asset.

We feel that the Secretary of Agriculture must be held responsible and accountable for the work in agricultural research. Certainly, full use must be made of the State research agencies under the land-grant-college system. Therefore we suggest that this can best be done by keeping this work in the Department of Agriculture under the direction of an Assistant Secretary and under the overall supervision and direction of the Secretary of Agriculture.

(4) We do not believe subsection (e) of section 4 is needed to achieve the objectives of the bill and recommend that it be stricken out. The previous subsection (d) authorizing contracts or cooperative agreements seem entirely adequate for the purpose. Farmers need no more "suitable incentives" than the opportunity to develop a new crop which has reasonable economic possibilities of profitable production.

(5) We recommend that section 5 of S. 4100 be deleted. We are opposed to Federal aid to education as contained in H. R. 12347, which provides for scholarships, and we see no good reason for beginning such a Federal program in connection with agriculture research. There are many scholarships and fellowships available now to worthy and outstanding individuals that can be utilized for this purpose.

(6) We recommend that section 6 of S. 4100 be deleted or modified. We do not believe that this language is necessary and that if our Government-owned facilities are needed, that under present law such facilities can be fully utilized with proper coordination of the administrative agencies of Government.

Some of the measures being considered by your committee provide for the creation of an Agricultural Research and Industrial Board. We see no good

reasons for the establishment of any new boards within the Department of Agriculture. We believe the current system of research advisory committees can be greatly improved, but we recommend that this structure be used as a basis for helping guide the research efforts and that no new boards be created.

For several years the American Farm Bureau Federation has advocated a long range agricultural research program that was developed in cooperation with other farm organizations and commodity groups. We are attaching for your information a copy of this long range program. We call to your attention the fact that this program provides for an annual increase of $18 million for research, $12 million for Federal use, and $6 million for State experiment stations. This program began in 1957; and had it been fully implemented, there would have been provided about $54 million increase for agricultural research. The appropriations have fallen $21 million short of the goal. The AFBF will continue to emphasize the need for an expanded agricultural research program, and we hope that the House Agriculture Committee will give approval to S. 4100 or similar bills with the deletions and additions suggested above.

Sincerely yours,

JOHN C. LYNN, *Legislative Director.*

Long-range-research program, basic program and appropriations, 1957–59, excluding construction and capital outlays

[Millions of dollars]

	Long-range program		1957 appropriation	1957 increase over 1956	1958 appropriation	1958 increase over 1957	1959 appropriation	1959 increase over 1958
	Total increase in 5 years (beginning 1957)	Recommended annual increase						
Research: USDA agencies	$60	$12	73.2	15.0	79.2	6.0	[1] 84.3	5.1
State experiment stations:								
Federal funds	30	6	29.8	5.0	30.6	.8	31.6	1.0
Non-Federal funds	60	12	84.4	8.1	[2] 91.0	6.6	[3]	[3]
Total, experiment stations	90	18	114.2	28.1	121.6	7.4		
Total research	150	30	187.4	43.1	200.8	13.4		
Classification of funds appropriated to USDA agencies:								
Production			47.9	10.2	52.2	4.3	54.9	2.7
Utilization			14.2	3.0	15.3	1.1	17.9	2.6
Marketing			9.2	1.5	9.5	.3	9.5	
Home economics			1.9	.3	2.0	.1	2.0	
Total			73.2	15.0	79.0	[4] 5.8	84.3	5.3

[1] In addition, it is estimated that in 1959 up to $5,000,000 of foreign currencies received from sale of surplus agricultural commodities will be used for utilization research abroad.
[2] Estimate.
[3] Not available.
[4] Excludes budget reserve for savings of $220,000.

UNIVERSITY OF ILLINOIS,
COLLEGE OF AGRICULTURE,
Urbana, Ill., August 12, 1958.

Hon. HAROLD D. COOLEY,
Chairman, Committee on Agriculture,
House of Representatives, Washington, D. C.

DEAR REPRESENTATIVE COOLEY: The directors of the agricultural experiment stations in the four regions have expressed considerable interest in proposed legislation relating to greater emphasis on research and development activities directed toward the increased use of agricultural products for industrial purposes. In consequence, a subcommittee of the Experiment Station Committee on

Organization and Policy, consisting of 1 director from each of the 4 regions, was constituted some time ago. Director F. E. Price of Oregon is chairman, and it is at his request that I address this brief statement to you with regard to Senate bill 4100 now before your committee for consideration.

It should be noted that the views here presented reflect the expressed attitudes of the directors in the four regions, as conveyed to me by their committee representatives, in addition to Director Price of Oregon, Director Mason H. Campbell of Rhode Island, and Director J. R. Beckenbach of Florida.

The directors view the extension of research and development on increased utilization as a desirable and fruitful approach to the surplus problem.

Although the Federal Government has put considerable concentrated effort on industrial utilization studies, the State agricultural experiment stations have likewise done creditable work on utilization and are in a position to expand such work materially under the grant and other provisions of the bill.

The experiment stations are so intimately associated with the educational activities of the land-grant colleges that the provisions for scholarships and fellowships would aid materially in a twofold way. They would stimulate more students to prepare themselves for scientific careers and hence make available in the future a more adequate supply of persons for utilization reasearch, while at the same time the students, during their advanced study, would extend greatly the research contributions of their instructors.

The principal point wherein there exists a difference of opinion on the provisions of Senate bill 4100 has to do with its establishment of a new administration within the Department of Agriculture to carry out the expanded activity on industrial utilization of agricultural commodities. A majority of directors believe this would lead to administrative confusion and other undesirable effects which could be avoided by utilizing the existing departmental organization (i. e., the Agricultural Research Service) that is presently carrying on much utilization work in an effective manner. Certainly, it would be essential that the work proposed under the new legislation be carried out in the closest cooperation with the Agricultural Research Service, with respect to both their utilization and production research. In this respect we believe there is much merit in Mr. Hill's bill H. R. 13513 or Mr. Dixon's bill H. R. 13605.

Please be assured that the agricultural experiment stations are prepared to undertake the expanded research and development programs that would be authorized under the grant, fellowship, contract, and perhaps other phases of Senator Ellender's bill, S. 4100, or the other bills referred to above, and they feel confident they are well prepared to make significant contributions. They also strongly believe that a substantial increase in the pool of manpower, competent to work in the utilization areas, will be created by placing major amounts of the work at the experiment stations, whereas a great expansion of the activity in either Government or industry tends to further intensify the competition for the available adequately trained personnel.

We shall be grateful for the consideration by you and your associates of these views.

LOUIS B. HOWARD,
Committee Member for the North Central Region
(For the ESCOP Subcommittee, Research on Increased Industrial Use of Agricultural Products).

(Whereupon, at 11:20 a. m., the committee adjourned subject to the call of the chairman.)

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